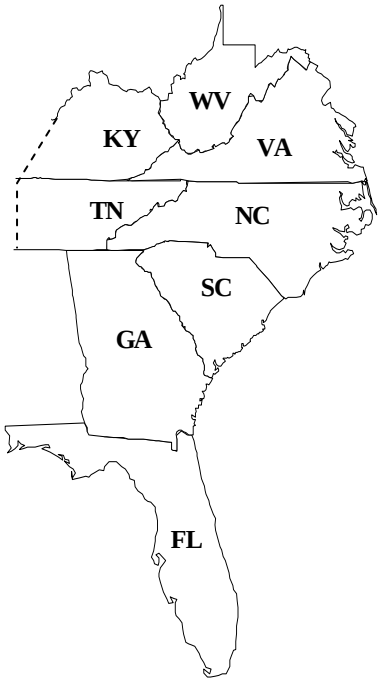
REGIONAL QUARTERS RENTAL SURVEY

COVERING
GOVERNMENT-FURNISHED QUARTERS
LOCATED IN

SOUTHEAST SURVEY REGION

(SOUTHEAST SURVEY DATE: JANUARY, 2004)
(EFFECTIVE DATE: MARCH 6, 2005)



Prepared By:
U.S. Department of the Interior
National Business Center
Products & Services

Approved By:
Debra E. Sonderman, Director
Office of Acquisition and
Property Management

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I. SURVEY BACKGROUND

The Quarters Management and Information Systems (QMIS) Office coordinated a contractor-conducted field survey of the private rental housing market in the states of Florida, Georgia, Kentucky, North Carolina, South Carolina, Tennessee, Virginia, and West Virginia, from December 2003 through February 2004. This survey was undertaken as specified in the Office of Management and Budget (OMB) Circular No. A-45, and the U.S. Department of the Interior's Departmental Quarters Handbook. OMB Circular A-45 provides for reconfirmation of the market based rental rates at least once every five years, or sooner, if conditions warrant.

The collection and analysis of rental housing data were accomplished employing methods similar to those used in previous surveys. Automated and manual analytical procedures were used to establish base rental rates for houses (including plexes), apartments, mobile homes, and trailer spaces. Rental rates for cabins were established based upon their comparability with 1-bedroom houses. Rental rates for temporary housing and travel trailers were established based upon their comparability with mobile homes. Rental rates for dormitories, bunkhouses and transient quarters were established by extending the principle of comparability, as provided for in OMB Circular A-45.

The objective of regional surveys, as set forth in OMB Circular No. A-45, is to develop reasonable rental rates based upon the ". . . typical rental rates for comparable private housing in the general area in which the Government quarters are located . . .." The policy set forth in OMB Circular A-45 is as follows:

> Rental rates and charges for Government quarters and related facilities will be based upon their "reasonable value...to the employee...in the circumstances under which the quarters and facilities are provided, occupied, or made available."...reasonable value to the employee or other occupant is determined by the rule of equivalence; namely, that charges for rent and related facilities should be set at levels equal to those prevailing for comparable private housing located in the same area, when practicable...

The regional survey method uses regression analysis techniques to establish a base rental rate for a given type of quarters that reflects the typical rate for that type of housing in the survey area. Regression analysis allows the Quarters Operations Office to establish adjustments that reflect: (1) the contributory value (+ or -) of housing features that the private rental market indicates are significant; and (2) relevant social and economic factors that are manifested in the rent levels of individual communities.

Because regression analysis permits assessment of (and adjustment for) different locations, as measured by market rents, several localities or states can be surveyed at a time to minimize data collection costs and the rates can be individualized for communities significantly at variance with the regional rent pattern.

The resulting product (finalized rental rates), when derived from carefully applied automated statistical analysis, provides a logical and equitable base rental rate structure supported by the market rental rate pattern of the region and the community.

II. INVENTORY OF GOVERNMENT-FURNISHED QUARTERS

This survey was initiated with an inventory of Government-furnished quarters (GFQ) managed by the agencies and bureaus that participate in the QMIS program.

Most agencies and bureaus now use the QMIS database software to manage their inventories. The Quarters Operations Office in Denver developed this software. The database software allows an installation or region to maintain its own housing inventory. Rents can be calculated in just minutes, even for hundreds of quarters. This decentralized system provides local control of the housing inventory. As always, the key to accurate rents is accurate, up-to-date inventory information. Software with the new housing rental rate formulas and new utility rates is distributed from Denver whenever new regional surveys are conducted or at CPI time. If you do not receive new CPI software or do not receive procedures for downloading the software by approximately January 1st of each year, please contact the Quarters Operations Office (303-969-5050). It is important that all agencies and bureaus submit (on diskettes or via electronic mail) updates to their housing inventories by May 15 of each year. This information is used to determine the communities and characteristics to be sampled in new Regional Surveys. The information is also used for various general management reports.

III. CONTRACTING FOR THE PRIVATE RENTAL SURVEY

A. DETERMINATION OF THE COMMUNITIES TO BE SURVEYED

Selection of the communities to be surveyed was initiated with a review of the nearest established communities identified in the quarters inventory process. Their geographic locations and populations were determined to enable selection of established communities nearest to concentrations of Government housing.

Inclusion of these communities enables a comparison of the community rental rate structure with that of the survey region. This permits a ready determination of whether the local or the regional rental rate structure should be utilized to establish the GFQ base rents. A complete discussion of this process is contained in section IV of this report.

The communities surveyed represented broad geographic and population ranges. The largest community surveyed, Jacksonville, Florida had a 2000 population of 735,617. The smallest community, Ronceverte, WV, had a population of 1,557. A list of the surveyed communities appears as Table 1. In accordance with OMB Circular A-45, communities with 2000 census populations below 1,500 were not analyzed.

TABLE 1 COMMUNITIES SURVEYED

STATE AND COMMUNITY	2000 CENSUS POPULATION
FLORIDA	
Blountstown, FL	2,444
Boynton Beach, FL	60,389
Brooksville, FL	7,264
Clewiston, FL	6,460
Crystal River, FL	3,485
Florida City, FL	7,843
Ft. Lauderdale, FL	152,397
Ft. Walton Beach, FL	19,973
Jacksonville, FL	735,617
Key West, FL	25,478
Lake City, FL	9,980
Marathon, FL	10,255
Miami, FL	362,470
Naples, FL	20,976
Palatka, FL	10,033
St. Augustine, FL	11,592
Stuart, FL	14,633
Tallahassee, FL	150,624
Umatilla, FL	2,214
GEORGIA	
Atlanta, GA	416,474
Augusta, GA	195,182
Clayton, GA	2,019
Dahlonega, GA	3,638
Darien, GA	1,719
Dublin, GA	15,857
Ft. Oglethorpe, GA	6,940
Homerville, GA	2,803
Macon, GA	97,255
Manchester, GA	3,988

TABLE 1 COMMUNITIES SURVEYED (Continued)

STATE AND COMMUNITY	2000 CENSUS POPULATION
GEORGIA	
Millen, GA	3,492
Monticello, GA	2,428
Roswell, GA	79,334
St. Marys, GA	13,761
Savannah, GA	131,510
KENTUCKY	
Ashland, KY	21,981
Harlan, KY	2,081
Hazard, KY	4,806
Lexington, KY	260,512
Manchester, KY	3,988
Mt. Sterling, KY	5,876
Pine Knot, KY	1,680
Russell Springs, KY	2,399
MARYLAND	
Hancock, MD	1,725
NORTH CAROLINA	
Ashville, NC	68,889
Beaufort, NC	3,771
Belhaven, NC	1,968
Boone, NC	13,472
Brevard, NC	6,789
Burgaw, NC	3,337
Burnsville, NC	1,623
Edenton, NC	5,394
Elizabeth, NC	17,188
Fayetteville, NC	121,015
Franklin, NC	3,490
Greensboro, NC	223,891
Marion, NC	4,943
Murphy, NC	1,568
Rockingham, NC	9,672

TABLE 1 COMMUNITIES SURVEYED (Continued)

STATE AND COMMUNITY	2000 CENSUS POPULATION
NORTH CAROLINA	
Salisbury, NC	26,462
Sparta, NC	1,817
Sylva, NC	2,435
Waynesville, NC	9,232
SOUTH CAROLINA	
Abbeyville, SC	5,840
Blacksburg, SC	1,880
Charlestown, SC	96,650
Columbia, SC	116,278
Gaffney, SC	12,968
Georgetown, SC	8,950
Hartsville, SC	7,556
Moncks Corner, SC	5,952
Newberry, SC	10,580
Orangeburg, SC	12,765
Walhalla, SC	3,801
TENNESSEE	
Bristol, TN	24,821
Cleveland, TN	37,192
Erwin, TN	5,610
Gatlinburg, TN	3,382
Johnson City, TN	55,469
Madisonville, TN	3,939
Maryville, TN	2,119
Newport, TN	7,242
Smithville, TN	3,994
VIRGINIA	
Appomattox, VA	1,761
Bedford, VA	6,299
Chincoteague, VA	4,317
Coeburn, VA	1,996
Colonial Beach, VA	3,228

TABLE 1 COMMUNITIES SURVEYED (Continued)

STATE AND COMMUNITY	2000 CENSUS POPULATION
VIRGINIA	
Covington, VA	6,303
Elkton, VA	2,042
Fredericksburg, VA	19,279
Front Royal, VA	13,589
Hillsville, VA	2,607
Lexington, VA	6,687
Luray, VA	4,871
Newport News, VA	180,150
Petersburg, VA	33,740
Richmond, VA	197,790
Roanoke, VA	94,911
Suffolk, VA	63,677
Waynesboro, VA	19,520
Williamsburg, VA	11,998
WEST VIRGINIA	
Beckley, WV	17,254
Charles Town, WV	2,907
Elkins, WV	7,032
Huntington, WV	51,475
Petersburg, WV	2,423
Richwood, WV	2,477
Ronceverte, WV	1,557
White Sulphur Springs, WV	2,315

B. DETERMINATION OF THE HOUSING CLASSES TO BE SURVEYED

In order to determine which housing classes to survey, the inventory data for the agencies participating in the QMIS system were separated into housing classes shown in Table 2, below. Analysis of the data revealed the following numbers of units per housing class:

TABLE 2 GOVERNMENT-FURNISHED QUARTERS - (BY HOUSING CLASS)

Housing Class	# of Units	Avg Age	Age Range	Avg. SQFT	SQFT Range
Houses					
4+ Bedrooms	45	69	(33 – 135)	3,128	(1,472 – 5,400)
3 Bedrooms	278	55	(0 – 134)	2,160	(640 – 3,849)
2 Bedrooms	131	53	(0 – 133)	1,376	(480 – 2,644)
1 Bedroom	50	59	(6 – 134)	978	(360 – 2,346)
Apartments					
3+ Bedrooms	8	76	(44 – 138)	1,584	(951 – 2,394)
2 Bedrooms	22	80	(5 – 180)	997	(600 – 2,114)
1 Bedroom	38	68	(12 – 167)	584	(400 – 1,000)
Efficiency	18	64	(14 – 137)	485	(285 – 990)
Cabins	3	25	(18 – 31)	610	(540 – 680)
Mobile Homes					
3+ Bedrooms	28	20	(10 – 31)	846	(800 – 1,380)
2 Bedrooms	10	35	(11 – 35)	688	(480 – 896)
1 Bedrooms	3	33	(31 – 34)	620	(400 – 840)
Travel Trailers	2	22	(6 – 40)	300	(120 – 1,152)
Dormitories	22	57	(16 – 116)	2,319	(827 – 7,770)
Trailer Pads	77				
TOTAL UNITS	735				

NOTE: The above data was extracted from the latest integrated database stored by the Quarters Operations Office. Since the program is decentralized the data contained in this database is only what has been sent to our office by users in the field. The numbers above may not accurately reflect the actual number of quarters for this survey region.

As with other regional surveys, the contractor was directed to survey only those housing classes for which a representative sample could be readily obtained in the private rental market. Thus, comparables were not obtained for cabins or lookouts, temporary housing, travel trailers, bunkhouses/dormitories, transient quarters or tents.

Rental rates for cabins were established by using the average rental rate for one-bedroom, single-family houses as the basis of comparison. Additional adjustments, that reflect the absence of certain standard housing features in some cabins, have been included for use when appropriate.

Since temporary housing and travel trailers (mobile home-like structures containing less than 256 square feet of gross living area) are most structurally similar to mobile homes, the rental charges for these housing classes are based upon the analysis of mobile home market rental comparables.

Since comparable bunkhouse or dormitory housing does not exist in most communities, the Quarters Operations Office is unable to obtain sufficient market data to provide a satisfactory statistical base. Consequently, rental rates for bunkhouses and dormitories have been established using an extension of the Principle of Comparability, as permitted in OMB Circular A-45. Similarly, the rental charge for transient quarters has been established in conjunction with the dormitory rate structure.

OMB Circular A-45, revised October 20, 1993, excludes tents from the definition of Government-furnished quarters. Therefore, rental charges have not been established (and should not be assessed) for tents which are used as employee housing.

Four housing classes (houses/plexes, apartments, mobile homes and trailer spaces) were ultimately selected for field survey and computer analysis. The contractor was instructed to select comparables, built to Housing and Urban Development (HUD) minimum housing standards, wherever possible. The number of observations obtained for each housing class in each community surveyed varied depending upon the number of nearby Government quarters of that class. The inventory data for each of the housing classes was analyzed to determine frequencies and age and size ranges for major construction elements. The information in Table 2 was used to guide the contractor in the conduct of the survey.

C. HEATING FUELS AND UTILITY CHARGE SURVEY

To ensure reliability of the energy consumption estimates for housing where consumption is neither metered nor measured, this report uses a series of contractor-developed heating and cooling consumption tables for each general type of housing represented in the survey. The tables are based upon energy consumption studies that use a methodology meeting housing industry standards. The results reflect energy consumption for variously sized single-family houses (with and without basements), apartments, and mobile homes. A complete discussion of the energy consumption/cost methodology is contained in Section VI.

D. CONTRACTOR SELECTION

The National Business Center, Products and Services provided procurement support and project coordination for this Private Rental Survey. Reimbursement for survey expenses was underwritten by the agencies and bureaus that participate in the Quarters Management Program.

The private rental survey was completed by Delta-21 Resources Inc. of Knoxville, TN, during the months of December 2003 through February 2004. A total of 1,779 private rental housing comparables were sampled. In addition, electrical, heating fuel, utility, appliance, and other related service charges were collected in each of the communities surveyed. The private rental housing costs that were obtained reflected current rental costs and required no adjustment for time.

IV. REGIONAL SURVEY PRINCIPLES AND PROCEDURES

A. SURVEY PRINCIPLES

The purpose of a regional survey is to determine and establish reasonable quarters rents, through an analysis of the market rents of comparable private housing in established communities nearest to concentrations of Government housing. The process of arriving at the base rent of a structure is influenced by real estate appraisal principles, statistical limitations, and administrative considerations. Often there may be a conflict among these three interests, which necessitates a trade-off.

1. Real estate appraisal principles include matching comparables as closely as possible to the specific subject properties in physical characteristics and location, and adjusting in a logical direction for all significant differences.

2. Statistical principles involve: (a) trying to minimize the standard error of the estimate (unexplained variation); (b) getting a good match of characteristics between the properties analyzed and those the analysis is applied to; (c) obtaining a large and diverse sample; and (d) making adjustments for factors that are significant in explaining variation. Ideal samples may not always be available in the market; and the market search may be limited (like an appraisal) because of time and budget constraints.

3. Administrative considerations recognize that Government housing is usually not located in established communities, and that physical characteristics (such as in historical houses, one-room cabins, lookouts or dormitories) are difficult to match in the market. Government quarters are often found in areas influenced by tourism or boom/bust natural resource development that may produce unreasonable rents. Consistency and relative reasonableness, as well as time and budget constraints must also be taken into consideration.

4. While trade-offs among these three considerations may result in a less than ideal application of any one of the three principles, the goal is still to produce "reasonable" Monthly Base Rental Rates (MBRR) for quarters that are relatively consistent with the local market rents for similar housing, internally consistent and logical from one unit to another, and represent reasonable value to the employee.

B. MULTIPLE REGRESSION PROCEDURES USED IN RENTAL RATE COMPUTATIONS

There are several reasons for using the regional survey method to arrive at quarters rental rates. These include accuracy, consistency, fairness, cost effectiveness/economy, and the provision in OMB Circular A-45, that regional surveys are the preferred method.

Prior to the use of the regional survey method, quarters Monthly Base Rental Rates (MBRR's) were reset every five years by individually appraising each quarters unit. The appraisal process normally relied upon the use of a small number (2-4) of comparables for each subject Government quarters unit and made logical or market abstracted adjustments to each comparable. In many instances the same comparables were used to establish rental rates for several quarters. Thus the selection of comparables became critical. Individualized appraisals often led to inconsistencies among units in the same area. Many times different agencies, managing similar or identical housing units in the same area, had substantially different rents after analyzing the same rental market. Appraisers valuing several different units using separate sets of comparables and adjustments can also sometimes arrive at rents not logically related to one another. Finally, the appraisal process required a considerable amount of travel, and individualized writing, typing and editing of appraisal reports, which was expensive and very time consuming.

Alternatively, the regional survey method relies upon much larger samples of comparables. These are analyzed, statistically, to objectively determine those factors that are significant in explaining variations in the adjusted rent of each class of comparables. Each class of comparables (houses, apartments and mobile homes) is analyzed separately to determine which locations and physical characteristics are important in explaining the differences in rents among individual rental units and communities. The computer program independently and objectively determines the best set of characteristics (formula) to explain the rental pattern. This formula varies for each survey region and housing class.

The rental rates are based upon an analysis of regional data and local data. The rents in all surveyed communities for each housing class are tested for statistical significance. All significant negative location adjustments are applied to the quarters using that community as their nearest established community. **Positive location (community) adjustments are not applied; so Government housing units near high-rent communities are charged the typical rent for the region as a whole, rather than the typical rent for that high cost location.**

The statistical process used is called forward in-and-out, step-wise multiple regression analysis. It takes all of the variables considered and forms a matrix or grid showing how every variable is related to every other variable (cross-correlation matrix). In this phase of the analysis, significant inventory items relating to the dwelling structure are coded into the computer as variables to be tested for their impact, if any, on rent. The variable to be explained (in this case rent) is called the dependent variable, because its value is determined by that of the other (independent) variables.

In forward in-and-out step-wise multiple regression analysis, the independent variable that explains the most variation in the dependent variable (rent) is selected first by the computer and entered as Step 1. The remaining variation is then recomputed, and the independent variable that explains the largest portion of the remaining variation is selected by the computer and entered as Step 2. As each new variable is added, the

coefficients of all the previously entered variables are recomputed to take into account relationships among the independent variables. If a previously entered variable no longer meets the test of significance, it is removed.

As this procedure uses the variation squared, it is highly sensitive to cases with extreme variations from the norm. Since the purpose of a regional survey is to find the typical rent for housing with certain characteristics, it is useful (and mandatory) to cull comparables with unusually high or low rents that are apparently unrelated to their characteristics. Such non-conforming rentals tend to obscure the typical pattern. To accomplish this culling, the following steps are normally taken.

Step 1. A listing of all the comparables is checked to see that the program has proper decodes, that no rental has been entered twice, and that the data is complete for each variable to be tested. The range for each rent class is also checked.

Step 2. Regression Run 1 (square foot base formula): The purified data base is analyzed for the best fit of adjusted rent versus square feet and the logarithm of square feet. This comparison is undertaken because square footage in buildings is generally the variable that explains the most variation of adjusted rent. It is also a universal variable (one that applies to all cases) and a continuous variable (one that changes in many small increments).

Step 3. A listing is produced which shows by community the rent/predicted rent ratio of each private rental sample. The predicted rent is one computed using the square foot base formula derived in step 2. The purpose of this listing is to screen out individual rentals whose ratios are far out of line relative to other rental comparables in the same community.

Step 4. A scattergram of rentals for each class, showing adjusted rent by square feet, is produced to visually display the data. These scattergrams, and the listings produced in Step 3, above, are used to remove samples with unusually high or low rents in each size grouping. A separate variable for each of the remaining communities is then entered into the next step, the full regression analysis, to see if it has a statistically significant location adjustment after other adjustments have been made. This run and a crosstab run of physical features allows for selection of other variables that are significantly represented and widely (geographically) distributed. These variables are turned into dummy (yes/no) and combination variables. Continuous and discrete variables are entered as simple variables, logarithmic transformations, and in logical combinations.

Step 5. (First Full Regression Run). The screened samples for each housing class to be analyzed, along with the variables to be tested, are analyzed to find coefficients for the significant variables. The results are checked for logic and cross-correlation; normally only one form of a variable is allowed to stay in the equation. Variables with illogical results are checked to find reasons for such deviation from expected results. Such variables are normally dropped from subsequent regression runs. Sometimes the samples containing such variables are culled; however, that action (culling samples) is uncommon.

Step 6. (Other Full Regression Runs). The full regression analysis is rerun without the illogical variables and/or dropped cases. If the end results look reasonable, the coefficients determined by regression analysis are used to compute Monthly Base Rental Rates (MBRR's) for individual Government-furnished quarters.

Step 7. (Predicted Rent Tables). The coefficients of each satisfactory regression run are put into a computer program which produces a table of predicted quarters MBRR's. The base values and all possible combinations of adjustments are reviewed to ensure the results are reliable for the full range of values. If not, the cause of the problem is diagnosed and corrected, and the regression analysis is rerun, producing a revised set of coefficients. Then Step 6 is repeated, and a new set of rent tables is produced.

V. ESTABLISHMENT OF MONTHLY BASE RENTAL RATES (MBRR)

A. USE OF BASE RENT CHARTS

Although rental computations have been automated, producing Monthly Base Rental Rates (MBRR's) and final Net Rents for most quarters, housing managers should understand the methodology used in determining the rental rates. Therefore, a set of charts has been prepared to allow the manual computation of the MBRR's for each class of rental housing. The charts have been constructed as size/age tables for the three major categories of housing (houses, apartments and mobile homes). By knowing the gross square feet of the livable area (size), the age, and the housing class of a building being used as quarters, one can determine the base rent from the proper table. The charts also contain columns and/or footnotes of rent adjustments, which modify the rent from the size/age table to produce a MBRR for an individual quarters unit. **The value of one refrigerator and one stove is included in the rents listed in Tables 3a-d, 4a-d and 5a-c.** Therefore, if the Government does not provide a refrigerator or a range in the quarters, the value of each non-provided appliance should be subtracted from the monthly rent. The current values of a refrigerator and range are shown in Table 18 of this report, and may be adjusted annually by the Quarters Operations Office to reflect changes in the Consumer Price Index (CPI) which may occur following the issuance of this report. In selecting the appropriate rent table, it is important to remember that the **design of the quarters, not its use, determines its category.** Thus, a house or an apartment unit **designed** to be occupied by an individual or a family, but which is actually used to house unrelated individuals, would be valued by the category for which it was designed to be used, rather than as a bunkhouse/dormitory. Where, however, a structure is not designed for occupancy by an individual, or family, or has been substantially modified to house individuals on a dormitory basis, it would be appropriate to apply bunkhouse/dormitory rates. Thus, an unmodified three-bedroom house with a **planned occupancy** of six unrelated individuals (normally two persons per bedroom) would have a rental rate determined by calculating the rental rate for a three-bedroom house and then dividing that rate by six. This rate would change if the number of **planned** occupants changed. If the house were later **structurally modified** to be used as a bunkhouse/dormitory, the rate then would be the dormitory rate.

Based upon information provided by the contractor, deductions from the monthly contract rental rate of each rental sample were made for the contributory costs of utilities, appliances, furnishings and services, provided and included in the contract rent. No deductions were made for central air conditioners, refrigerators or ranges; however, if a refrigerator or range was missing, the value was added to the adjusted rent. Central air conditioners are valued at their contributory value, if any. The resulting adjusted monthly contract rental rate represents the contributory value of the dwelling structure equipped with a refrigerator and a range.

The establishment of final monthly quarters rental charges for houses, apartments, mobile homes and cabins/lookouts requires the addition of charges for Government-provided utilities, services, appliances and furnishings. Conversely, **deductions** are required for the values of ranges and refrigerators when they are not provided by the Government.

There are a total of eleven rental rate charts: four charts for single-family housing, four charts for apartments, and three charts for mobile homes. Instructions for computing rental rates for cabins, bunkhouses and dormitories, transient quarters and trailer spaces are found in Sections V.E, V.F, V.G and V.H, respectively. Because OMB Circular A-45 excludes tents from the definition of "rental quarters," there is no charge for the provision of tents.

The use of the charts is fairly simple. First, find the chart for the category into which the GFQ fits. Next, round the square feet **down** to the nearest hundreds of square feet. Thus, if a unit has 980 square feet, the row labeled 900 SQFT would be used. Then the age should be rounded **up** to the nearest age increment. If the dwelling at issue was built in 1980, its age would be computed as 2004 (the current year) minus 1980 (the year built). Thus, in this instance, the unit is 2004 - 1980 = 24 years old; and the column headed by "25 YEARS OLD" should then be followed down to the 900 SQFT row to obtain the size/age adjusted rent.

The rent charts also have various location adjustments, as well as adjustments for physical features such as the number of bathrooms, the type of garage facilities, the condition of the housing, etc. These should be subtracted from, or added to, the size/age adjusted rent, as specified, to determine the MBRR.

When computing the final biweekly rent (net rent) to be paid, the MBRR must be adjusted to include the value of Government-provided related facilities (utilities, appliances, furnishings and services); and the administrative adjustments prescribed in OMB Circular A-45. Use Form DI 1880, Rent Computation Schedule, or similar form as may be used by agencies other than DOI.

Where a dwelling is larger than the highest square footage in the chart pertinent to that unit, use the size/age rent and adjustments of the bottom (largest SQFT) row. This may eliminate the need for some administrative adjustments due to excess size of the housing. If a dwelling is smaller than the smallest square footage, use the lowest square footage listed on the chart.

The rent for a dwelling with more than 4 bedrooms (3 bedrooms for apartments and mobile homes) is calculated as if the unit had 4 bedrooms (3 bedrooms for apartments and mobile homes). In addition, the carport charge is the same regardless of the size of the carport; and the fireplace charge is the same for one or more fireplaces. For rental calculation purposes a "cap" of 3 bathrooms applies. Therefore, assume 3 bathrooms when applying the bathrooms charge in the rent charts shown in tables 3a-d, 4a-d and 5a-c.

To assist in the calculation of quarters MBRR's, examples are provided in the following pages. While the rates appearing in the following tables should allow you to establish MBRR's for essentially all of your properties, we recognize that we might not have anticipated all situations and conditions. Therefore, housing managers should use professional discretion to set rates for truly unusual situations. In cases where you must use some other method to establish rates, please notify the National Business Center, Products &

Services, and Quarters Operations Office via telephone **303-969-5050** or fax 303-969-6634. You should explain the conditions, the rate used, and your reasoning so that we may anticipate such circumstances in the future. You should retain the documentation for such actions in your files.

B. SINGLE FAMILY HOUSING

For single-family detached houses, including plexed dwellings and townhouses, use the rental chart which appropriately describes the housing class and the number of bedrooms of the subject quarters. The charts for houses are in tables 3a through 3d.

Assume for example, a 3-bedroom, 1 1/2-bath house, that was built in 1973, and which has a 2-car garage, two fireplaces, a central refrigerated air conditioning system and 1,276 gross square feet of living space. The house, located near Marion, NC is fair in both exterior and interior condition.

First, the chart for 3-bedroom, good condition, 1 bathroom, houses (Table 3b) should be located and used. These charts are baseline charts, which assume that each house is in good condition inside and outside and has one full bathroom. Therefore, if the house is in good condition inside and outside and has one bathroom, no additional computations are needed. If there is a deviation from either good inside or outside condition or there are less or more bathrooms than one, then the computations must be changed as discussed below. In the first step, Table 3b is selected as the proper chart for 3-bedroom houses. Next, the size (gross finished floor space) should be rounded **down** to the nearest 100 square feet (from 1,276 to 1,200 sqft). Under the column headed "**SQFT**," the figure 1,200 should be located. Further adjustments will be taken from this row.

Finally, the appropriate age column should be selected. The house in this example is 2004 - 1973 = 31 years old. The age should be rounded **up** to the next highest age column, which, in this case, is the column headed "**35 YRS OLD**." Follow this column down to the 1,200 square feet row to obtain the size/age "Chart Rent" of $559.

The first adjustment is the extra bathroom charge. Follow the column headed "**PER EXTRA BATHROOM**" down to the 1,200 SQFT row to find a charge of $42 for a full extra bathroom. As the house in this example has only 1/2 of an extra bathroom, the adjustment is $42 x .5 (1/2 extra bathroom) = $21.00. Add $21 to the rent.

The second and third adjustments are made for a fair exterior and a fair interior condition. Follow the column headed "**FAIR EXTERIOR/INTERIOR***" down to the 1,200 SQFT row. The amount reflects a deduction of $15 for a house with a fair exterior **and** a deduction of $15 for a house with a fair interior. Since both the exterior and interior are in fair condition, the total adjustment is $-30.

The fourth adjustment is for the central refrigerated air conditioning system. Follow the column headed "**A/C (REF)**" down to the 1,200 SQFT row. The amount reflects an addition of $26 for central refrigerated air conditioning.

The fifth adjustment is for a two-car garage. Follow the column headed "**GARAGE (PER CAR)**" down to the 1,200 SQFT row. $34 should be charged for each car the garage is designed to accommodate. Since the

house in this example has a 2-car garage, multiply the amount shown for one car ($34) times 2 to reflect the value of a 2-car garage (2 x $34 = $68). Add $68 to the rent.

The sixth adjustment is made for the fireplace. Follow the column headed "**FIREPLACES**" down to the 1,200 SQFT row. The amount reflects an addition of $22 for one or more fireplaces. Add $22 to the rent for the fireplace.

The final adjustment is the community adjustment. The house in this example is located near Marion, NC. The notes beneath the table (see "**COMMUNITY ADJUSTMENTS**") reflect that Marion, NC receives an adjustment of -$74. As instructed, subtract $74 from the rent. Community adjustments are given only to communities in which the market rents are **lower** than the regional average level of rents. Communities not listed in the tables have rents, which are equal to or higher than the regional average rent and do not receive community adjustments.

In summary, the adjustments that produce the Monthly Base Rental Rate for the house used in this example are shown below.

Chart Rent (1,200 SQFT/35 yrs. old)	$559.00
Extra Bath Adjustment (.5 X $42)	+ 21.00
Fair Exterior Condition Adjustment	- 15.00
Fair Interior Condition Adjustment	- 15.00
Central Refrigerated Air Conditioning Adjustment	+ 26.00
Garage Adjustment (Per Car X $34)	+ 68.00
Fireplace Adjustment	+ 22.00
Community Adjustment (Marion, NC)	- 74.00
Monthly Base Rent	$592.00
Monthly Base Rent (Rounded)	$592.00

TABLE 3a MONTHLY BASE RENT CHART - GOOD CONDITION 4 BEDROOM, 1 BATH HOUSES
SOUTHEAST SURVEY REGION

SQFT	5 YRS OLD	15 YRS OLD	25 YRS OLD	35 YRS OLD	45 YRS OLD	55 YRS OLD	75+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER -IOR/ INTER -IOR*	FAIR EXTER -IOR/ INTER -IOR*	POOR EXTER -IOR/ INTER -IOR*	A/C (REF)	GAR-AGE PER (CAR)	FIRE-PLACES	PLEX
700	$671	$622	$596	$579	$566	$555	$539	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
800	$684	$636	$610	$593	$580	$569	$552	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
900	$698	$649	$624	$607	$593	$583	$566	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1000	$712	$663	$638	$620	$607	$597	$580	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1100	$726	$677	$652	$634	$621	$610	$594	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1200	$740	$691	$665	$648	$635	$624	$608	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1300	$753	$705	$679	$662	$649	$638	$621	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1400	$767	$718	$693	$676	$662	$652	$635	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1500	$781	$732	$707	$689	$676	$666	$649	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1600	$795	$746	$721	$703	$690	$679	$663	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1700	$809	$760	$734	$717	$704	$693	$677	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1800	$822	$774	$748	$731	$718	$707	$690	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1900	$836	$787	$762	$745	$731	$721	$704	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
2000	$850	$801	$776	$758	$745	$735	$718	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
2100	$864	$815	$790	$772	$759	$748	$732	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
2200	$878	$829	$803	$786	$773	$762	$746	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
2300	$891	$843	$817	$800	$787	$776	$759	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47

ADDITIONAL ADJUSTMENTS:

STRUCTURAL ADJUSTMENTS:
CENTRAL EVAPORATIVE AIR CONDITIONING: ADD $20 CARPORT: ADD $28

COMMUNITY ADJUSTMENTS:

BLOUNTSTOWN, FL.	-$101;	LAKE CITY, FL.	-$31;	CLAYTON, GA.	-$27;	DARIEN, GA.	-$90;
DUBLIN, GA.	-$163;	GRAY, GA.	-$104;	HOMERVILLE, GA.	-$191;	MACON, GA.	-$87;
MANCHESTER, GA.	-$157;	MILLEN, GA.	-$246;	MONTICELLO, GA.	-$104;	ST. SIMONS ISLAND, GA.	-$90;
ASHLAND, KY.	-$51;	CORBIN, KY.	-$195;	HAZARD, KY.	-$57;	LONDON, KY.	-$195;
MANCHESTER, KY.	-$195;	MIDDLESBORO, KY.	-$165;	MOREHEAD, KY.	-$119;	MT. STERLING, KY.	-$119;
PINE KNOT, KY.	-$165;	RUSSELL SPGS, KY.	-$202;	STEARNS, KY.	-$165;	HANCOCK, MD.	-$48;
BELHAVEN, NC.	-$224;	BURGAW, NC.	-$23;	EDENTON, NC.	-$18;	FRANKLIN, NC.	-$47;
MARION, NC.	-$74;	MURPHY, NC.	-$61;	PLYMOUTH, NC.	-$18;	ROCKINGHAM, NC.	-$76;
SALISBURY, NC.	-$17;	SPARTA, NC.	-$175;	SPRUCE PINE, NC.	-$74;	TROY, NC.	-$76;
BLACKBURG, SC.	-$141;	GAFFNEY, SC.	-$87;	HARTSVILLE, SC.	-$95;	MONCKS CORNER, SC.	-$22;
NEWBERRY, SC.	-$149;	ORANGEBURG, SC.	-$75;	WALHALLA, SC.	-$156;	BRISTOL, TN.	-$51;
CLEVELAND, TN.	-$80;	ERWIN, TN.	-$80;	MADISONVILLE, TN.	-$126;	NEWPORT, TN.	-$113;
ONEIDA, TN.	-$165;	SMITHVILLE, TN.	-$152;	APPOMATTOX, VA.	-$82;	COEBURN, VA.	-$160;
COVINGTON, VA.	-$152;	HILLSVILLE, VA.	-$182;	LURAY, VA.	-$98;	LYNCHBURG, VA.	-$82;
WISE, VA.	-$160;	ELKINS, WV.	-$215;	PETERSBURG, WV.	-$121;	RICHWOOD, WV.	-$260;
WHITE SULPHUR SPRGS, WV.	-$150						

* - IF BOTH THE INTERIOR AND EXTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

REGARDLESS OF ADJUSTMENTS, THE MINIMUM BASE RENT IS $190 PER MONTH.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE 3b MONTHLY BASE RENT CHART - GOOD CONDITION 3 BEDROOM, 1 BATH HOUSES
SOUTHEAST SURVEY REGION

SQFT	5 YRS OLD	15 YRS OLD	25 YRS OLD	35 YRS OLD	45 YRS OLD	55 YRS OLD	75+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER -IOR/ INTER -IOR*	FAIR EXTER -IOR/ INTER -IOR*	POOR EXTER -IOR/ INTER -IOR*	A/C (REF)	GAR-AGE PER (CAR)	FIRE-PLACES	PLEX
500	$554	$505	$480	$462	$449	$439	$422	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
600	$568	$519	$494	$476	$463	$452	$436	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
700	$582	$533	$507	$490	$477	$466	$450	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
800	$595	$547	$521	$504	$491	$480	$463	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
900	$609	$560	$535	$518	$504	$494	$477	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1000	$623	$574	$549	$531	$518	$508	$491	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1100	$637	$588	$563	$545	$532	$521	$505	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1200	$651	$602	$576	$559	$546	$535	$519	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1300	$664	$616	$590	$573	$560	$549	$532	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1400	$678	$629	$604	$587	$573	$563	$546	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1500	$692	$643	$618	$600	$587	$577	$560	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1600	$706	$657	$632	$614	$601	$590	$574	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1700	$720	$671	$645	$628	$615	$604	$588	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1800	$733	$685	$659	$642	$629	$618	$601	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1900	$747	$698	$673	$656	$642	$632	$615	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
2000	$761	$712	$687	$669	$656	$646	$629	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
2100	$775	$726	$701	$683	$670	$659	$643	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47

ADDITIONAL ADJUSTMENTS:

STRUCTURAL ADJUSTMENTS:
CENTRAL EVAPORATIVE AIR CONDITIONING: ADD $20 CARPORT: ADD $28

COMMUNITY ADJUSTMENTS:

BLOUNTSTOWN, FL.	-$101;	LAKE CITY, FL.	-$31;	CLAYTON, GA.	-$27;	DARIEN, GA.	-$90;
DUBLIN, GA.	-$163;	GRAY, GA.	-$104;	HOMERVILLE, GA.	-$191;	MACON, GA.	-$87;
MANCHESTER, GA.	-$157;	MILLEN, GA.	-$246;	MONTICELLO, GA.	-$104;	ST. SIMONS ISLAND, GA.	-$90;
ASHLAND, KY.	-$51;	CORBIN, KY.	-$195;	HAZARD, KY.	-$57;	LONDON, KY.	-$195;
MANCHESTER, KY.	-$195;	MIDDLESBORO, KY.	-$165;	MOREHEAD, KY.	-$119;	MT. STERLING, KY.	-$119;
PINE KNOT, KY.	-$165;	RUSSELL SPGS, KY.	-$202;	STEARNS, KY.	-$165;	HANCOCK, MD.	-$48;
BELHAVEN, NC.	-$224;	BURGAW, NC.	-$23;	EDENTON, NC.	-$18;	FRANKLIN, NC.	-$47;
MARION, NC.	-$74;	MURPHY, NC.	-$61;	PLYMOUTH, NC.	-$18;	ROCKINGHAM, NC.	-$76;
SALISBURY, NC.	-$17;	SPARTA, NC.	-$175;	SPRUCE PINE, NC.	-$74;	TROY, NC.	-$76;
BLACKBURG, SC.	-$141;	GAFFNEY, SC.	-$87;	HARTSVILLE, SC.	-$95;	MONCKS CORNER, SC.	-$22;
NEWBERRY, SC.	-$149;	ORANGEBURG, SC.	-$75;	WALHALLA, SC.	-$156;	BRISTOL, TN.	-$51;
CLEVELAND, TN.	-$80;	ERWIN, TN.	-$80;	MADISONVILLE, TN.	-$126;	NEWPORT, TN.	-$113;
ONEIDA, TN.	-$165;	SMITHVILLE, TN.	-$152;	APPOMATTOX, VA.	-$82;	COEBURN, VA.	-$160;
COVINGTON, VA.	-$152;	HILLSVILLE, VA.	-$182;	LURAY, VA.	-$98;	LYNCHBURG, VA.	-$82;
WISE, VA.	-$160;	ELKINS, WV.	-$215;	PETERSBURG, WV.	-$121;	RICHWOOD, WV.	-$260;
WHITE SULPHUR SPRGS, WV.	-$150						

* - IF BOTH THE INTERIOR AND EXTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

REGARDLESS OF ADJUSTMENTS, THE MINIMUM BASE RENT IS $190 PER MONTH.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE 3c MONTHLY BASE RENT CHART - GOOD CONDITION 2 BEDROOM, 1 BATH HOUSES
SOUTHEAST SURVEY REGION

SQFT	5 YRS OLD	15 YRS OLD	25 YRS OLD	35 YRS OLD	45 YRS OLD	55 YRS OLD	75+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER -IOR/ INTER -IOR*	FAIR EXTER -IOR/ INTER -IOR*	POOR EXTER -IOR/ INTER -IOR*	A/C (REF)	GAR-AGE PER (CAR)	FIRE-PLACES	PLEX
300	$437	$389	$363	$346	$333	$322	$305	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
400	$451	$402	$377	$360	$346	$336	$319	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
500	$465	$416	$391	$373	$360	$350	$333	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
600	$479	$430	$405	$387	$374	$363	$347	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
700	$493	$444	$418	$401	$388	$377	$361	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
800	$506	$458	$432	$415	$402	$391	$374	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
900	$520	$471	$446	$429	$415	$405	$388	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1000	$534	$485	$460	$442	$429	$419	$402	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1100	$548	$499	$474	$456	$443	$432	$416	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1200	$562	$513	$487	$470	$457	$446	$430	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1300	$575	$527	$501	$484	$471	$460	$443	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1400	$589	$540	$515	$498	$484	$474	$457	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1500	$603	$554	$529	$511	$498	$488	$471	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1600	$617	$568	$543	$525	$512	$501	$485	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1700	$631	$582	$556	$539	$526	$515	$499	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1800	$644	$596	$570	$553	$540	$529	$512	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1900	$658	$609	$584	$567	$553	$543	$526	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47

ADDITIONAL ADJUSTMENTS:

STRUCTURAL ADJUSTMENTS:
CENTRAL EVAPORATIVE AIR CONDITIONING: ADD $20 CARPORT: ADD $28

COMMUNITY ADJUSTMENTS:

BLOUNTSTOWN, FL.	-$101;	LAKE CITY, FL.	-$31;	CLAYTON, GA.	-$27;	DARIEN, GA.	-$90;
DUBLIN, GA.	-$163;	GRAY, GA.	-$104;	HOMERVILLE, GA.	-$191;	MACON, GA.	-$87;
MANCHESTER, GA.	-$157;	MILLEN, GA.	-$246;	MONTICELLO, GA.	-$104;	ST. SIMONS ISLAND, GA.	-$90;
ASHLAND, KY.	-$51;	CORBIN, KY.	-$195;	HAZARD, KY.	-$57;	LONDON, KY.	-$195;
MANCHESTER, KY.	-$195;	MIDDLESBORO, KY.	-$165;	MOREHEAD, KY.	-$119;	MT. STERLING, KY.	-$119;
PINE KNOT, KY.	-$165;	RUSSELL SPGS, KY.	-$202;	STEARNS, KY.	-$165;	HANCOCK, MD.	-$48;
BELHAVEN, NC.	-$224;	BURGAW, NC.	-$23;	EDENTON, NC.	-$18;	FRANKLIN, NC.	-$47;
MARION, NC.	-$74;	MURPHY, NC.	-$61;	PLYMOUTH, NC.	-$18;	ROCKINGHAM, NC.	-$76;
SALISBURY, NC.	-$17;	SPARTA, NC.	-$175;	SPRUCE PINE, NC.	-$74;	TROY, NC.	-$76;
BLACKBURG, SC.	-$141;	GAFFNEY, SC.	-$87;	HARTSVILLE, SC.	-$95;	MONCKS CORNER, SC.	-$22;
NEWBERRY, SC.	-$149;	ORANGEBURG, SC.	-$75;	WALHALLA, SC.	-$156;	BRISTOL, TN.	-$51;
CLEVELAND, TN.	-$80;	ERWIN, TN.	-$80;	MADISONVILLE, TN.	-$126;	NEWPORT, TN.	-$113;
ONEIDA, TN.	-$165;	SMITHVILLE, TN.	-$152;	APPOMATTOX, VA.	-$82;	COEBURN, VA.	-$160;
COVINGTON, VA.	-$152;	HILLSVILLE, VA.	-$182;	LURAY, VA.	-$98;	LYNCHBURG, VA.	-$82;
WISE, VA.	-$160;	ELKINS, WV.	-$215;	PETERSBURG, WV.	-$121;	RICHWOOD, WV.	-$260;
WHITE SULPHUR SPRGS, WV.	-$150						

* - IF BOTH THE INTERIOR AND EXTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

REGARDLESS OF ADJUSTMENTS, THE MINIMUM BASE RENT IS $190 PER MONTH.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE 3d MONTHLY BASE RENT CHART - GOOD CONDITION 1 BEDROOM, 1 BATH HOUSES
SOUTHEAST SURVEY REGION

SQFT	5 YRS OLD	15 YRS OLD	25 YRS OLD	35 YRS OLD	45 YRS OLD	55 YRS OLD	75+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER -IOR/ INTER -IOR*	FAIR EXTER -IOR/ INTER -IOR*	POOR EXTER -IOR/ INTER -IOR*	A/C (REF)	GAR-AGE PER (CAR)	FIRE-PLACES	PLEX
100	$321	$272	$247	$229	$216	$205	$189	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
200	$335	$286	$260	$243	$230	$219	$203	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
300	$348	$300	$274	$257	$244	$233	$216	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
400	$362	$313	$288	$271	$257	$247	$230	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
500	$376	$327	$302	$284	$271	$261	$244	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
600	$390	$341	$316	$298	$285	$274	$258	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
700	$404	$355	$329	$312	$299	$288	$272	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
800	$417	$369	$343	$326	$313	$302	$285	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
900	$431	$382	$357	$340	$326	$316	$299	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1000	$445	$396	$371	$353	$340	$330	$313	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1100	$459	$410	$385	$367	$354	$343	$327	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1200	$473	$424	$398	$381	$368	$357	$341	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1300	$486	$438	$412	$395	$382	$371	$354	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1400	$500	$451	$426	$409	$395	$385	$368	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47
1500	$514	$465	$440	$422	$409	$399	$382	$+42	$+15	$-15	$-20	$+26	$+34	$+22	$-47

ADDITIONAL ADJUSTMENTS:

STRUCTURAL ADJUSTMENTS:
CENTRAL EVAPORATIVE AIR CONDITIONING: ADD $20 CARPORT: ADD $28

COMMUNITY ADJUSTMENTS:

BLOUNTSTOWN, FL.	-$101;	LAKE CITY, FL.	-$31;	CLAYTON, GA.	-$27;	DARIEN, GA.	-$90;
DUBLIN, GA.	-$163;	GRAY, GA.	-$104;	HOMERVILLE, GA.	-$191;	MACON, GA.	-$87;
MANCHESTER, GA.	-$157;	MILLEN, GA.	-$246;	MONTICELLO, GA.	-$104;	ST. SIMONS ISLAND, GA.	-$90;
ASHLAND, KY.	-$51;	CORBIN, KY.	-$195;	HAZARD, KY.	-$57;	LONDON, KY.	-$195;
MANCHESTER, KY.	-$195;	MIDDLESBORO, KY.	-$165;	MOREHEAD, KY.	-$119;	MT. STERLING, KY.	-$119;
PINE KNOT, KY.	-$165;	RUSSELL SPGS, KY.	-$202;	STEARNS, KY.	-$165;	HANCOCK, MD.	-$48;
BELHAVEN, NC.	-$224;	BURGAW, NC.	-$23;	EDENTON, NC.	-$18;	FRANKLIN, NC.	-$47;
MARION, NC.	-$74;	MURPHY, NC.	-$61;	PLYMOUTH, NC.	-$18;	ROCKINGHAM, NC.	-$76;
SALISBURY, NC.	-$17;	SPARTA, NC.	-$175;	SPRUCE PINE, NC.	-$74;	TROY, NC.	-$76;
BLACKBURG, SC.	-$141;	GAFFNEY, SC.	-$87;	HARTSVILLE, SC.	-$95;	MONCKS CORNER, SC.	-$22;
NEWBERRY, SC.	-$149;	ORANGEBURG, SC.	-$75;	WALHALLA, SC.	-$156;	BRISTOL, TN.	-$51;
CLEVELAND, TN.	-$80;	ERWIN, TN.	-$80;	MADISONVILLE, TN.	-$126;	NEWPORT, TN.	-$113;
ONEIDA, TN.	-$165;	SMITHVILLE, TN.	-$152;	APPOMATTOX, VA.	-$82;	COEBURN, VA.	-$160;
COVINGTON, VA.	-$152;	HILLSVILLE, VA.	-$182;	LURAY, VA.	-$98;	LYNCHBURG, VA.	-$82;
WISE, VA.	-$160;	ELKINS, WV.	-$215;	PETERSBURG, WV.	-$121;	RICHWOOD, WV.	-$260;
WHITE SULPHUR SPRGS, WV.	-$150						

* - IF BOTH THE INTERIOR AND EXTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

REGARDLESS OF ADJUSTMENTS, THE MINIMUM BASE RENT IS $190 PER MONTH.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

C. APARTMENTS

For all apartment units, use the rental chart, which appropriately describes the housing class and the number of bedrooms of the subject quarters. The charts for apartments are in Tables 4a through 4d.

Assume a 2-bedroom, 2-bathroom apartment, near Key West, FL with 760 square feet. The exterior is in poor condition; the interior is in fair condition. The apartment, which was built in 1959, is 45 years old (2004 - 1959), has a carport, and central refrigerated air conditioning.

First, the two-bedroom chart for good condition apartments (Table 4b) should be located and used. These charts are baseline charts, which assume that each apartment is in good condition inside and outside and has one full bathroom. Therefore, if the apartment is in good condition inside and outside and has one bathroom, no additional computations are needed. If there is a deviation from either good inside or outside condition or there are less or more bathrooms than one, then the computations must be changed as discussed below. In the first step, Table 4b is selected as the proper chart for 2-bedroom apartments.

In the second step the size (gross living area) is rounded **down** from 760 to 700 square feet. Under the column headed **"SQFT"** the figure 700 should be located. All further adjustments will be taken from this row.

In the third step the appropriate age column is selected. A 45-year old apartment is between 35 and 45 years old; therefore, the **"45 YRS OLD"** column should be used. A two-bedroom apartment, in good condition with 700 square feet of living space (gross), and which is 45 years of age, has a "Chart Rent" of $518 per month.

The first adjustment is the extra bathroom adjustment charge. Following the 700 SQFT row along to the column headed **"PER EXTRA BATHROOM"** you will find a charge of $103. To compute the charge for the extra bathroom, multiply 1 (1 extra bath) times $103 (the extra bath charge). Add $103 to the rent.

The second and third adjustments are for a poor exterior and a fair interior condition. Follow the 700 SQFT row across the table to the column headed **"POOR EXTERIOR/INTERIOR*"** a deduction of $20 is shown; and in the next column titled **"FAIR EXTERIOR/INTERIOR*"**, a deduction of $15 is shown. Subtract from the rent $20 for poor exterior condition, and $15 for fair interior condition.

The fourth adjustment is for a carport. Beneath the table, under **"STRUCTURAL ADJUSTMENTS"**, there is an instruction to add $25 for a carport of any size. As instructed add $25 to the rent of this apartment.

The fifth adjustment is for the central refrigerated air conditioning system. Beneath the table, under **"STRUCTURAL ADJUSTMENTS"**, there is an instruction to add $30 for Central Refrigerated Air Conditioning. The amount reflects an addition of $30 for central refrigerated air conditioning.

The final adjustment is the community adjustment. The apartment in this example is located near Key West, FL. The notes beneath the table (see "**COMMUNITY ADJUSTMENTS**") show no adjustment for Key West, FL. Therefore, rental values in Key West, FL for apartments are equal to or greater than the

regional average. Since positive community adjustments are not applied, no community adjustment is shown for Key West, FL.

The last step is to round the resulting MBRR (Monthly Base Rental Rate) to the nearest whole dollar. Any amount resulting in an amount of $.50 or greater is rounded up; any amount resulting in an amount of $.49 or less is rounded down. The decision to round is discretionary.

In summary, the Monthly Base Rental Rate for the apartment in this example is determined as follows:

Chart Rent (700 SQFT/45 years old)	$518.00
Extra Bath Adjustment (1 X $103)	+103.00
Poor Exterior Adjustment	-20.00
Fair Interior Adjustment	-15.00
Carport Adjustment	+25.00
Central Refrigerated Air Conditioning Adjustment	+30.00
Location Adjustment (Key West, FL)	- 00.00
Monthly Base Rental Rate	$641.00

TABLE 4a MONTHLY BASE RENT CHART - GOOD CONDITION 3 BEDROOM, 1 BATH APARTMENTS
SOUTHEAST SURVEY REGION

SQFT	5 YRS OLD	15 YRS OLD	25 YRS OLD	35 YRS OLD	45 YRS OLD	55 YRS OLD	75+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER IOR/ INTER IOR*	FAIR EXTER- IOR/ INTER- IOR*	POOR EXTER- IOR/ INTER- IOR*	GAR- AGE (ANY SIZE)
600	$569	$557	$550	$546	$542	$540	$535	$+103	$+34	$-15	$-20	$+40
700	$578	$566	$559	$555	$552	$549	$545	$+103	$+34	$-15	$-20	$+40
800	$588	$575	$569	$564	$561	$558	$554	$+103	$+34	$-15	$-20	$+40
900	$597	$584	$578	$574	$570	$568	$563	$+103	$+34	$-15	$-20	$+40
1000	$606	$594	$587	$583	$580	$577	$573	$+103	$+34	$-15	$-20	$+40
1100	$615	$603	$597	$592	$589	$586	$582	$+103	$+34	$-15	$-20	$+40
1200	$625	$612	$606	$601	$598	$595	$591	$+103	$+34	$-15	$-20	$+40
1300	$634	$622	$615	$611	$607	$605	$601	$+103	$+34	$-15	$-20	$+40
1400	$643	$631	$624	$620	$617	$614	$610	$+103	$+34	$-15	$-20	$+40
1500	$653	$640	$634	$629	$626	$623	$619	$+103	$+34	$-15	$-20	$+40
1600	$662	$650	$643	$639	$635	$633	$628	$+103	$+34	$-15	$-20	$+40
1700	$671	$659	$652	$648	$645	$642	$638	$+103	$+34	$-15	$-20	$+40
1800	$681	$668	$662	$657	$654	$651	$647	$+103	$+34	$-15	$-20	$+40

ADDITIONAL ADJUSTMENTS:

STRUCTURAL ADJUSTMENTS:

CARPORT (ANY SIZE): ADD $25
FIREPLACE(S): ADD $25
CENTRAL REFRIGERATED AIR CONDITIONING: ADD $30
CENTRAL EVAPORATIVE AIR CONDITIONING: ADD $20

COMMUNITY ADJUSTMENTS:

CRYSTAL RIVER, FL.	-$79;	FLORIDA CITY, FL.	-$16;	HOMESTEAD, FL.	-$16;	CLEVELAND, GA	-$114;
DAHLONEGA, GA.	-$114;	ST.MARYS, GA.	-$121;	LEXINGTON, KY.	-$77;	MOUNT STERLING, KY.	-$146;
PINE KNOT, KY.	-$265;	STEARNS, KY.	-$265;	BEAUFORT, NC.	-$135;	MURPHY, NC.	-$173;
SYLVA, NC.	-$173;	WAYNESVILLE, NC.	-$103;	GEORGETOWN, SC.	-$120;	BRISTOL, TN.	-$162;
GATLINBURG, TN.	-$122;	MARYVILLE, TN.	-$143;	NEWPORT, TN.	-$262;	ELKTON, VA.	-$115;
LURAY, VA.	-$194;	NEWPORT NEWS, VA.	-$89;	RONCEVERTE, WV.	-$137		

*IF BOTH THE EXTERIOR AND INTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

REGARDLESS OF ADJUSTMENTS, THE MINIMUM BASE RENT IS $190 PER MONTH.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE 4b MONTHLY BASE RENT CHART - GOOD CONDITION 2 BEDROOM, 1 BATH APARTMENTS
SOUTHEAST SURVEY REGION

SQFT	5 YRS OLD	15 YRS OLD	25 YRS OLD	35 YRS OLD	45 YRS OLD	55 YRS OLD	75+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER IOR/ INTER IOR*	FAIR EXTER- IOR/ INTER- IOR*	POOR EXTER- IOR/ INTER- IOR*	GAR- AGE (ANY SIZE)
400	$517	$504	$498	$494	$490	$488	$483	$+103	$+34	$-15	$-20	$+40
500	$526	$514	$507	$503	$500	$497	$493	$+103	$+34	$-15	$-20	$+40
600	$536	$523	$517	$512	$509	$506	$502	$+103	$+34	$-15	$-20	$+40
700	$545	$532	$526	$521	$518	$515	$511	$+103	$+34	$-15	$-20	$+40
800	$554	$542	$535	$531	$527	$525	$521	$+103	$+34	$-15	$-20	$+40
900	$563	$551	$545	$540	$537	$534	$530	$+103	$+34	$-15	$-20	$+40
1000	$573	$560	$554	$549	$546	$543	$539	$+103	$+34	$-15	$-20	$+40
1100	$582	$570	$563	$559	$555	$553	$548	$+103	$+34	$-15	$-20	$+40
1200	$591	$579	$572	$568	$565	$562	$558	$+103	$+34	$-15	$-20	$+40
1300	$601	$588	$582	$577	$574	$571	$567	$+103	$+34	$-15	$-20	$+40
1400	$610	$597	$591	$587	$583	$581	$576	$+103	$+34	$-15	$-20	$+40
1500	$619	$607	$600	$596	$593	$590	$586	$+103	$+34	$-15	$-20	$+40
1600	$629	$616	$610	$605	$602	$599	$595	$+103	$+34	$-15	$-20	$+40

ADDITIONAL ADJUSTMENTS:

STRUCTURAL ADJUSTMENTS:

CARPORT (ANY SIZE): ADD $25
FIREPLACE(S): ADD $25
CENTRAL REFRIGERATED AIR CONDITIONING: ADD $30
CENTRAL EVAPORATIVE AIR CONDITIONING: ADD $20

COMMUNITY ADJUSTMENTS:

CRYSTAL RIVER, FL.	-$79;	FLORIDA CITY, FL.	-$16;	HOMESTEAD, FL.	-$16;	CLEVELAND, GA	-$114;
DAHLONEGA, GA.	-$114;	ST.MARYS, GA.	-$121;	LEXINGTON, KY.	-$77;	MOUNT STERLING, KY.	-$146;
PINE KNOT, KY.	-$265;	STEARNS, KY.	-$265;	BEAUFORT, NC.	-$135;	MURPHY, NC.	-$173;
SYLVA, NC.	-$173;	WAYNESVILLE, NC.	-$103;	GEORGETOWN, SC.	-$120;	BRISTOL, TN.	-$162;
GATLINBURG, TN.	-$122;	MARYVILLE, TN.	-$143;	NEWPORT, TN.	-$262;	ELKTON, VA.	-$115;
LURAY, VA.	-$194;	NEWPORT NEWS, VA.	-$89;	RONCEVERTE, WV.	-$137		

*IF BOTH THE EXTERIOR AND INTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

REGARDLESS OF ADJUSTMENTS, THE MINIMUM BASE RENT IS $190 PER MONTH.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE 4c MONTHLY BASE RENT CHART - GOOD CONDITION 1 BEDROOM, 1 BATH APARTMENTS
SOUTHEAST SURVEY REGION

SQFT	5 YRS OLD	15 YRS OLD	25 YRS OLD	35 YRS OLD	45 YRS OLD	55 YRS OLD	75+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER IOR/ INTER IOR*	FAIR EXTER- IOR/ INTER- IOR*	POOR EXTER- IOR/ INTER- IOR*	GAR- AGE (ANY SIZE)
300	$464	$452	$446	$441	$438	$435	$431	$+103	$+34	$-15	$-20	$+40
400	$474	$461	$455	$450	$447	$444	$440	$+103	$+34	$-15	$-20	$+40
500	$483	$471	$464	$460	$456	$454	$449	$+103	$+34	$-15	$-20	$+40
600	$492	$480	$473	$469	$466	$463	$459	$+103	$+34	$-15	$-20	$+40
700	$502	$489	$483	$478	$475	$472	$468	$+103	$+34	$-15	$-20	$+40
800	$511	$499	$492	$488	$484	$482	$477	$+103	$+34	$-15	$-20	$+40
900	$520	$508	$501	$497	$494	$491	$487	$+103	$+34	$-15	$-20	$+40
1000	$530	$517	$511	$506	$503	$500	$496	$+103	$+34	$-15	$-20	$+40
1100	$539	$526	$520	$516	$512	$509	$505	$+103	$+34	$-15	$-20	$+40
1200	$548	$536	$529	$525	$521	$519	$515	$+103	$+34	$-15	$-20	$+40
1300	$557	$545	$539	$534	$531	$528	$524	$+103	$+34	$-15	$-20	$+40
1400	$567	$554	$548	$543	$540	$537	$533	$+103	$+34	$-15	$-20	$+40
1500	$576	$564	$557	$553	$549	$547	$542	$+103	$+34	$-15	$-20	$+40

ADDITIONAL ADJUSTMENTS:

STRUCTURAL ADJUSTMENTS:

CARPORT (ANY SIZE): ADD $25
FIREPLACE(S): ADD $25
CENTRAL REFRIGERATED AIR CONDITIONING: ADD $30
CENTRAL EVAPORATIVE AIR CONDITIONING: ADD $20

COMMUNITY ADJUSTMENTS:

CRYSTAL RIVER, FL.	-$79;	FLORIDA CITY, FL.	-$16;	HOMESTEAD, FL.	-$16;	CLEVELAND, GA	-$114;
DAHLONEGA, GA.	-$114;	ST.MARYS, GA.	-$121;	LEXINGTON, KY.	-$77;	MOUNT STERLING, KY.	-$146;
PINE KNOT, KY.	-$265;	STEARNS, KY.	-$265;	BEAUFORT, NC.	-$135;	MURPHY, NC.	-$173;
SYLVA, NC.	-$173;	WAYNESVILLE, NC.	-$103;	GEORGETOWN, SC.	-$120;	BRISTOL, TN.	-$162;
GATLINBURG, TN.	-$122;	MARYVILLE, TN.	-$143;	NEWPORT, TN.	-$262;	ELKTON, VA.	-$115;
LURAY, VA.	-$194;	NEWPORT NEWS, VA.	-$89;	RONCEVERTE, WV.	-$137		

*IF BOTH THE EXTERIOR AND INTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

REGARDLESS OF ADJUSTMENTS, THE MINIMUM BASE RENT IS $190 PER MONTH.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE 4d MONTHLY BASE RENT CHART - GOOD CONDITION 0 BEDROOM, 1 BATH APARTMENTS
SOUTHEAST SURVEY REGION

SQFT	5 YRS OLD	15 YRS OLD	25 YRS OLD	35 YRS OLD	45 YRS OLD	55 YRS OLD	75+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER IOR/ INTER IOR*	FAIR EXTER- IOR/ INTER- IOR*	POOR EXTER- IOR/ INTER- IOR*	GAR- AGE (ANY SIZE)
100	$385	$373	$366	$362	$358	$356	$351	$+103	$+34	$-15	$-20	$+40
200	$394	$382	$375	$371	$368	$365	$361	$+103	$+34	$-15	$-20	$+40
300	$404	$391	$385	$380	$377	$374	$370	$+103	$+34	$-15	$-20	$+40
400	$413	$401	$394	$390	$386	$384	$379	$+103	$+34	$-15	$-20	$+40
500	$422	$410	$403	$399	$396	$393	$389	$+103	$+34	$-15	$-20	$+40
600	$432	$419	$413	$408	$405	$402	$398	$+103	$+34	$-15	$-20	$+40
700	$441	$428	$422	$418	$414	$411	$407	$+103	$+34	$-15	$-20	$+40
800	$450	$438	$431	$427	$423	$421	$417	$+103	$+34	$-15	$-20	$+40
900	$459	$447	$441	$436	$433	$430	$426	$+103	$+34	$-15	$-20	$+40
1000	$469	$456	$450	$445	$442	$439	$435	$+103	$+34	$-15	$-20	$+40
1100	$478	$466	$459	$455	$451	$449	$444	$+103	$+34	$-15	$-20	$+40

ADDITIONAL ADJUSTMENTS:

STRUCTURAL ADJUSTMENTS:

CARPORT (ANY SIZE): ADD $25
FIREPLACE(S): ADD $25
CENTRAL REFRIGERATED AIR CONDITIONING: ADD $30
CENTRAL EVAPORATIVE AIR CONDITIONING: ADD $20

COMMUNITY ADJUSTMENTS:

CRYSTAL RIVER, FL. -$79; FLORIDA CITY, FL. -$16; HOMESTEAD, FL. -$16; CLEVELAND, GA -$114;
DAHLONEGA, GA. -$114; ST.MARYS, GA. -$121; LEXINGTON, KY. -$77; MOUNT STERLING, KY. -$146;
PINE KNOT, KY. -$265; STEARNS, KY. -$265; BEAUFORT, NC. -$135; MURPHY, NC. -$173;
SYLVA, NC. -$173; WAYNESVILLE, NC. -$103; GEORGETOWN, SC. -$120; BRISTOL, TN. -$162;
GATLINBURG, TN. -$122; MARYVILLE, TN. -$143; NEWPORT, TN. -$262; ELKTON, VA. -$115;
LURAY, VA. -$194; NEWPORT NEWS, VA. -$89; RONCEVERTE, WV. -$137

*IF BOTH THE EXTERIOR AND INTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

REGARDLESS OF ADJUSTMENTS, THE MINIMUM BASE RENT IS $190 PER MONTH.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

D. MOBILE HOMES, TRAVEL TRAILERS, AND HOUSEBOATS

For these housing classes, use the mobile home base rental charts (Tables 5a-c). To familiarize the reader with these charts, assume a 490 square foot, 1-bedroom mobile home built in 1969 with a 3/4 bathroom. This mobile home is in poor interior and poor exterior condition and is located near Petersburg, WV. The Monthly Base Rental Rate for the mobile home in this example is calculated from Table 5c as follows.

The 1-bedroom chart for good condition mobile homes (Table 5c) should be located and used. This chart is a baseline chart, which assumes that each mobile home is in good condition inside and outside and has one full bathroom. Therefore, if the mobile home is in good condition inside and outside and has one full bathroom, no additional computations are needed. If there is a deviation from either good inside or outside condition or there are less or more bathrooms than one, then the computations must be changed accordingly.

First, locate the table for mobile homes in good condition with *one full bathroom* (Table 5c). Next, the gross square feet of living area should be rounded down to 400 square feet, and the **age** (2004 - 1969 = 35 years) is rounded **up** to 35+ years. The column headed **"SQFT"** is followed **down** to 400. All other adjustments are taken from this row. On this row, under the column headed **"35+ YRS OLD,"** the "Chart Rent" is $281.

The base rental value of $281 (computed above) includes the value of one full bathroom. Since the unit in this example has only a 3/4 bathroom, an adjustment must be made for the missing 1/4 bathroom. At the top of the table is a column titled **"PER EXTRA BATHROOM."** Follow this column down to the 400 SQFT row. A value of $33 is shown. Multiply this value times .25 (1/4 bathroom) to calculate the value of the missing 1/4 bathroom ($33 X .25 = $8.25). Subtract $8.00 (rounded) from the rent.

The second and third adjustments are for the condition of the unit. Follow the 400 SQFT row to the column headed **"POOR EXTERIOR/INTERIOR*"**; subtract $15 for the poor exterior condition and another $15 for the poor interior condition.

The final adjustment is the community adjustment. The mobile home in this example is located near Petersburg, WV. The notes beneath the table (see "**COMMUNITY ADJUSTMENTS**") show an adjustment of -$79 for Petersburg, WV. The rental values for mobile homes in Petersburg, WV are much lower than the survey area average. The rent for mobile homes which use Petersburg, WV as the nearest established community should be reduced by $79.

The Monthly Base Rental Rate for this mobile home is shown below.

Chart Rent (400 SQFT/35+ years old)	$281.00
Bathroom Adjustment (.25 X $33)	- 8.00
Poor Exterior	- 15.00
Poor Interior	- 15.00
Location Adjustment (Petersburg, WV)	- 79.00
Computed Monthly Base Rental Rate	$164.00
Actual Monthly Base Rental Rate (Minimum Base)	$190.00

Note: In this example, the Monthly Base Rental Rate computes to $164.00, which is less than the $190.00 minimum Monthly Base Rental Rate for the Southeast Survey Region (refer to the footnotes on each rent table for the minimum base rent). Therefore, the Monthly Base Rental Rate for the mobile home in this example will be set at $190.00. Keep in mind that the minimum *Monthly Base Rental Rate* is different from the minimum monthly F*inal Rent*. Thus, $190.00 is not the minimum final rent possible.

TABLE 5a MONTHLY BASE RENT CHART - GOOD CONDITION, 3 BEDROOM, 1 BATH MOBILE HOMES
SOUTHEAST SURVEY REGION

SQFT	5 YRS OLD	10 YRS OLD	15 YRS OLD	20 YRS OLD	25 YRS OLD	30 YRS OLD	35+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER-IOR/ INTER-IOR*	FAIR EXTER-IOR/ INTER-IOR*	POOR EXTER-IOR/ INTER-IOR*
400	$331	$324	$317	$310	$303	$296	$289	$+33	$+15	$-10	$-15
500	$334	$327	$320	$313	$306	$299	$292	$+33	$+15	$-10	$-15
600	$337	$330	$323	$316	$309	$302	$295	$+33	$+15	$-10	$-15
700	$340	$333	$326	$319	$312	$305	$298	$+33	$+15	$-10	$-15
800	$343	$336	$329	$322	$315	$308	$301	$+33	$+15	$-10	$-15
900	$346	$339	$332	$325	$318	$311	$304	$+33	$+15	$-10	$-15
1000	$349	$342	$335	$328	$321	$314	$307	$+33	$+15	$-10	$-15
1100	$352	$345	$338	$331	$324	$317	$310	$+33	$+15	$-10	$-15
1200	$355	$348	$341	$334	$327	$320	$313	$+33	$+15	$-10	$-15
1300	$358	$351	$344	$337	$330	$323	$316	$+33	$+15	$-10	$-15
1400	$361	$354	$347	$340	$333	$326	$319	$+33	$+15	$-10	$-15
1500	$364	$357	$350	$343	$336	$329	$322	$+33	$+15	$-10	$-15
1600	$367	$360	$353	$346	$339	$332	$325	$+33	$+15	$-10	$-15

ADDITIONAL ADJUSTMENTS:

STRUCTURAL ADJUSTMENTS:

GARAGE (ANY SIZE):	ADD	$25
CARPORT (ANY SIZE):	ADD	$15
CENTRAL REFRIGERATED AIR CONDITIONING:	ADD	$53
CENTRAL EVAPORATIVE AIR CONDITIONING:	ADD	$20

COMMUNITY ADJUSTMENTS:

DARIEN, GA.	-$104;	HARLAN, KY.	-$35;	MANCHESTER, KY.	-$32;	BELHAVEN, NC.	-$45;
ELIZABETH CITY, NC.	-$33;	SPARTA, NC.	-$107;	GEORETOWN, SC.	-$72;	BRISTOL, TN.	-$65;
MADISONVILLE, TN.	-$27;	COEBURN, VA.	-$87;	LEXINGTON, VA.	-$43;	LURAY, VA	-$82;
PETERSBURG, WV.	-$79;						

* - IF BOTH THE EXTERIOR AND INTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

REGARDLESS OF ADJUSTMENTS, THE MINIMUM BASE RENT IS $190 PER MONTH.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE 5b MONTHLY BASE RENT CHART - GOOD CONDITION, 2 BEDROOM, 1 BATH MOBILE HOMES
SOUTHEAST SURVEY REGION

SQFT	5 YRS OLD	10 YRS OLD	15 YRS OLD	20 YRS OLD	25 YRS OLD	30 YRS OLD	35+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER-IOR/ INTER-IOR*	FAIR EXTER-IOR/ INTER-IOR*	POOR EXTER-IOR/ INTER-IOR*
400	$327	$320	$313	$306	$299	$292	$285	$+33	$+15	$-10	$-15
500	$329	$322	$315	$308	$301	$294	$287	$+33	$+15	$-10	$-15
600	$331	$324	$317	$310	$303	$296	$289	$+33	$+15	$-10	$-15
700	$333	$326	$319	$312	$305	$298	$291	$+33	$+15	$-10	$-15
800	$335	$328	$321	$314	$307	$300	$293	$+33	$+15	$-10	$-15
900	$337	$330	$323	$316	$309	$302	$295	$+33	$+15	$-10	$-15
1000	$339	$332	$325	$318	$311	$304	$297	$+33	$+15	$-10	$-15
1100	$341	$334	$327	$320	$313	$306	$299	$+33	$+15	$-10	$-15
1200	$343	$336	$329	$322	$315	$308	$301	$+33	$+15	$-10	$-15
1300	$345	$338	$331	$324	$317	$310	$303	$+33	$+15	$-10	$-15
1400	$347	$340	$333	$326	$319	$312	$305	$+33	$+15	$-10	$-15
1500	$349	$342	$335	$328	$321	$314	$307	$+33	$+15	$-10	$-15

ADDITIONAL ADJUSTMENTS:

STRUCTURAL ADJUSTMENTS:

GARAGE (ANY SIZE):	ADD	$25
CARPORT (ANY SIZE):	ADD	$15
CENTRAL REFRIGERATED AIR CONDITIONING:	ADD	$53
CENTRAL EVAPORATIVE AIR CONDITIONING:	ADD	$20

COMMUNITY ADJUSTMENTS:

DARIEN, GA.	-$104;	HARLAN, KY.	-$35;	MANCHESTER, KY.	-$32;	BELHAVEN, NC.	-$45;
ELIZABETH CITY, NC.	-$33;	SPARTA, NC.	-$107;	GEORETOWN, SC.	-$72;	BRISTOL, TN.	-$65;
MADISONVILLE, TN.	-$27;	COEBURN, VA.	-$87;	LEXINGTON, VA.	-$43;	LURAY, VA	-$82;
PETERSBURG, WV.	-$79;						

* - IF BOTH THE EXTERIOR AND INTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

REGARDLESS OF ADJUSTMENTS, THE MINIMUM BASE RENT IS $190 PER MONTH.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

TABLE 5c MONTHLY BASE RENT CHART - GOOD CONDITION, 1 BEDROOM, 1 BATH MOBILE HOMES
SOUTHEAST SURVEY REGION

SQFT	5 YRS OLD	10 YRS OLD	15 YRS OLD	20 YRS OLD	25 YRS OLD	30 YRS OLD	35+ YRS OLD	PER EXTRA BATH ROOM	EXCEL EXTER-IOR/ INTER-IOR*	FAIR EXTER-IOR/ INTER-IOR*	POOR EXTER-IOR/ INTER-IOR*
100	$320	$313	$306	$299	$292	$285	$278	$+33	$+15	$-10	$-15
200	$321	$314	$307	$300	$293	$286	$279	$+33	$+15	$-10	$-15
300	$322	$315	$308	$301	$294	$287	$280	$+33	$+15	$-10	$-15
400	$323	$316	$309	$302	$295	$288	$281	$+33	$+15	$-10	$-15
500	$324	$317	$310	$303	$296	$289	$282	$+33	$+15	$-10	$-15
600	$325	$318	$311	$304	$297	$290	$283	$+33	$+15	$-10	$-15
700	$326	$319	$312	$305	$298	$291	$284	$+33	$+15	$-10	$-15
800	$327	$320	$313	$306	$299	$292	$285	$+33	$+15	$-10	$-15
900	$328	$321	$314	$307	$300	$293	$286	$+33	$+15	$-10	$-15
1000	$329	$322	$315	$308	$301	$294	$287	$+33	$+15	$-10	$-15
1100	$330	$323	$316	$309	$302	$295	$288	$+33	$+15	$-10	$-15
1200	$331	$324	$317	$310	$303	$296	$289	$+33	$+15	$-10	$-15

ADDITIONAL ADJUSTMENTS:

STRUCTURAL ADJUSTMENTS:

GARAGE (ANY SIZE):	ADD	$25
CARPORT (ANY SIZE):	ADD	$15
CENTRAL REFRIGERATED AIR CONDITIONING:	ADD	$53
CENTRAL EVAPORATIVE AIR CONDITIONING:	ADD	$20

COMMUNITY ADJUSTMENTS:

DARIEN, GA.	-$104;	HARLAN, KY.	-$35;	MANCHESTER, KY.	-$32;	BELHAVEN, NC.	-$45;
ELIZABETH CITY, NC.	-$33;	SPARTA, NC.	-$107;	GEORETOWN, SC.	-$72;	BRISTOL, TN.	-$65;
MADISONVILLE, TN.	-$27;	COEBURN, VA.	-$87;	LEXINGTON, VA.	-$43;	LURAY, VA	-$82;
PETERSBURG, WV.	-$79;						

* - IF BOTH THE EXTERIOR AND INTERIOR ARE IN THIS CONDITION, APPLY THIS FACTOR TWICE.

REGARDLESS OF ADJUSTMENTS, THE MINIMUM BASE RENT IS $190 PER MONTH.

THE APPROPRIATE CPI FACTOR SHOULD BE APPLIED AFTER COMPLETING THE ABOVE ADJUSTMENTS.

E. CABINS OR LOOKOUTS

For purposes of rental rate establishment, the rental housing class most comparable to cabins or lookouts would be 1-bedroom, single-family houses, regardless of the number of bedrooms in the cabin. One-bedroom, single-family rental houses generally consist of smaller and older housing units. Where the cabins or lookouts are outfitted for housekeeping, and contain an independent primary heating system, the rental rates (including all applicable adjustments) are determined by using the 1-bedroom house chart (i.e. Table 3d).

Where a cabin or lookout lacks full housekeeping facilities (including running water, an inside heated bathroom, or a central heating system), additional adjustments (shown below) must be made to the Monthly Base Rental Rate. A free standing stove without a fan, or a fireplace does not qualify as a central primary heating system. These adjustments are designed to take into consideration the inconvenience resulting from the lack of full housekeeping facilities. However, the adjusted monthly base rental rate may not be set below the minimum monthly base rent of $190.

. No Electricity =	- 20%
. No Inside Bathroom =	- 20%
. No Running Water =	- 20%
. No Central Heating System =	- 15% (*)
. Less Than Two Rooms (One-Room Cabin or Lookout) =	- 10%

(*) Applied only if used during the heating season.

F. BUNKHOUSE AND DORMITORIES

Bunkhouses and dormitories should only include housing units that have been specifically constructed or modified for use as bunkhouses or dormitories. Single-family houses, apartments or mobile homes that are **used** as dormitories or bunkhouses, must be valued as what they are (houses, apartments or mobile homes), with the rent divided by the number of **planned** occupants (normally 2 per bedroom).

Dormitory or bunkhouse units typically lack either a living room or kitchen, or have common baths and kitchens serving many people. Many also have multiple bunk beds in large ward-like rooms. Such housing units pose a valuation problem, as they are normally found only in association with institutions such as the military or colleges, of which its occupants are members. Since these institutions do not typically rent to the public at large, one cannot obtain an arms-length market rent.

Under circumstances where there is a lack of comparable rental data, OMB Circular A-45 provides that rental rates may be established using an extension of the Principle of Comparability. Under this procedure, rental rates are established using the most comparable rental housing available, and the rate is essentially 50 percent of the average house rent.

During the February, 1994 National Quarters Conference, the National Quarters Council decided that one aggregate monthly rate should be established for **all** dormitories in a survey region. This aggregate dormitory rate, which includes the value of Government-provided utilities, furnishings and services, was determined as follows. An analysis of the comparables used in this survey found that the average single-family house had 1,294 square feet of finished floor space, 2.7 bedrooms and an average monthly-adjusted contract rent of $687. By applying an extension of the Principle of Comparability, the Base Shelter Rental Rate (BSRR) for bunkhouses and dormitories is calculated as shown below.

During the 2002 National Quarters Conference, the National Quarters Council reviewed different dormitory costing methods for the newer types of dormitories being built by some agencies. In researching new and existing dormitory models it was found the majority of the dormitories plan to house two occupants per room, which the current costing methodology is based upon. In addition, most occupants in dormitories share both a kitchen and bathroom. Based on these factors the Council decided to continue using the current costing methodology.

Average adjusted contract rent x .5 = $687 x .5 = $347.00 (Rounded)

$347.00 / (average # of bedrooms x 2 occupants per bedroom)
$347.00 / (2.7 bedrooms x 2 occupants) = $347.00 / 5.4 = $63.70 per month/per occupant.

Charges were then added to this rate for utilities, services and furnishings that are provided by the Government. The aggregate value of these items was based on a study of the rates prevailing in the regional survey area. These charges were prorated based upon a 1,294 square foot, 2.7 bedrooms, single-family house occupied by 2 people per bedroom. The aggregate charge for these related facilities is $47.77.

Monthly, weekly, and daily bunkhouse and dormitory rates are computed as follows.

TABLE 6 BUNKHOUSE/DORMITORY RENTS

SOUTHEAST

Monthly Charge

Dormitory Rate $63.70
Related Facilities Charges $47.77

MBRR ..... $111.45 (Rounded)

Bi-Weekly Charge

To convert to bi-weekly rate
multiply MBRR by .4615 and
round to nearest five cents $51.45

Weekly Charge

To convert to weekly rate
multiply MBRR by .2308 and
round to nearest five cents $25.70

Daily Charge

To convert to daily rate
multiply MBRR by .0333 and
round to nearest five cents $3.70

Note: An administrative adjustment of -10% is permitted if 3 or more people must share a bedroom or sleeping area. Also, an administrative adjustment of –10% is permitted for dormitories that lack kitchen or cooking facilities.

G. TRANSIENT QUARTERS

Transient quarters are those that are occupied on a transient basis, normally for a period of 90 days or less. Government provided transient quarters offer a range of accommodations. At some locations kitchen facilities, private telephones and private bathrooms may be available; at others, they are not provided. At some locations, maid service is provided (with varying degrees of frequency); at other locations, employees are "issued" bedding and other domestic items, and must take care of their own house keeping arrangements.

Given the diversity of facilities and services associated with Government-provided transient quarters, the QMIS National Quarters Council determined that private housing, comparable to Government transient quarters, generally does not exist. Accordingly, the rental charges for transient quarters have been established by extending the principle of comparability, as provided in OMB Circular A-45.

Essentially, the rental charge for transient quarters is the sum of the monthly dormitory rate (see Table 6); a monthly charge for maid service (Table 18); and a 20 percent administrative/service charge required by OMB Circular A-45 paragraph 7.c (4)(a). Monthly, weekly and daily charges for transient quarters are shown, below, in Table 7.

TABLE 7 TRANSIENT QUARTERS RENTS

Dormitory BSRR	$63.70
Related Facilities Charges (Table 6)	47.77
Maid Service (Table 18)	72.00
Subtotal	$183.45 (Rounded)
Administrative Charge (OMB Cir. A-45)	x 1.20
Total	$220.14

Monthly Charge (Rounded)	$220.15
Bi-Weekly Charge ($220.15 x .4615 Rounded)	$101.60
Weekly Charge ($220.15 x .2308 Rounded)	$50.80
Daily Charge ($220.15 x .0333 Rounded)	$7.35

H. TRAILER SPACES

During the course of the survey, trailer pads were surveyed in a wide variety of mobile home parks and varied widely in physical characteristics, utilities, rents, and geographical location.

A simplified analysis of this data was done. The value of related facilities in the contract rent was subtracted to arrive at an adjusted rent. After excluding extreme outliers, the average adjusted rent was determined for the remaining samples.

The average adjusted rent was then divided into the actual rent of each remaining sample. Those communities where the adjusted contract rents were significantly lower than the average rent for the region were given their typical adjusted rents. The rental rates of trailer pads in all other communities were established at the survey average rental level for the region.

During the February, 1993 National Quarters Conference, the National Quarters Officers of the agencies that participate in the Quarters Management Program agreed to assess the same monthly base rental rate (the rate for a single-wide space) for **all** GFQ trailer spaces. This is because most employees do not own/occupy doublewide mobile homes, and because the market differences are negligible.

To determine the trailer pad Monthly Base Rental Rate, use the applicable rate contained in Table 8. Do not use the rates in Table 8 if the trailer pad is occupied by a Government-owned or leased mobile home, as the land rent is already included in the base rent for all improved quarters.

If, as an example, the trailer pad were occupied by a tenant-owned mobile home located near Sparta, NC, the base rent for this pad would be $73 per month. If, for another example, the trailer space were located near Gatlinburg, TN, the base rental rate for this pad would be $180 (the "All Other Locations" charge). No other adjustments are made for physical characteristics such as the date the trailer pad was installed, the front or square footage, or the total number of sites at that location.

However, all appropriate administrative adjustments (such as amenity and isolation adjustments), as well as all charges for Government provided related facilities (such as utilities and furnishings) should be applied to the Monthly Base Rental Rates in Table 8 to determine the monthly net rental charge.

TABLE 8 TRAILER SPACES - MONTHLY BASE RENTAL RATES

COMMUNITIES	MONTHLY BASE RENTAL RATES
GEORGIA	
Dahlonega, GA	$157
Fort Oglethorpe, GA	$144
Gray, GA	$125
Monticello, GA	$125
KENTUCKY	
Manchester, KY	$119
Mount Sterling, KY	$159
NORTH CAROLINA	
Beaufort, NC	$90
Belhaven, NC	$100
Elizabeth City, NC	$128
Murphy, NC	$153
Sparta, NC	$73
Sylva, NC	$90
Waynesville, NC	$103
SOUTH CAROLINA	
Abbeville, SC	$116
Georgetown, SC	$106
TENNESSEE	
Bristol, TN	$151
Madisonville, TN	$108
Maryville, TN	$124
VIRGINIA	
Bedford, VA	$133
Coeburn, VA	$141
Lexington, VA	$142
Luray, VA	$125
WEST VIRGINIA	
Petersburg, WV	$110
ALL OTHER LOCATIONS	$180

I. OBSOLETE QUARTERS

OMB Circular A-45 revised October 20, 1993 excludes from the term rental quarters ". . . housing which due to extreme deterioration is unsuitable for occupancy except in exigent circumstances. . .." The net effect of this change means there will be no base rental rate for obsolete quarters. However, assessments will be made for utilities, furnishings, appliances and any other services that are provided by the Government.

The Department of the Interior Quarters Handbook (DQH), and the regulations of other QMIS program participants, provide that housing used as employee quarters must be safe, sanitary, and energy efficient. Where housing is in obsolete condition, it is by definition unfit for use as employee housing, and should be renovated, replaced, destroyed or used for non-residential purposes. Section 7.3A of the DQH also provides that the appropriate Program Assistant Secretary, or his/her designee (Bureau Head), may authorize temporary occupancy (for a period not to exceed one year), pending rehabilitation or replacement action where sufficient written justification is provided.

VI. CHARGES FOR UTILITIES, APPLIANCES AND RELATED SERVICES

A. BACKGROUND

OMB Circular A-45 requires that, whenever possible, utilities should be provided by a private company and billed directly to quarters occupants. Where Government-furnished utilities are provided, they should be metered or measured. When Government-furnished utilities are not metered or measured, consumption will be determined from an analysis of the average amounts of utilities used in comparable private housing in the nearest established community or survey area. **Where the Government furnishes utilities, and where the quarters rental rates are established by the regional survey method, the utility rates shall be the regional average utility rates prescribed in this report - <u>not</u> the rates prevailing in the nearest established community.**

The regional average utility rates contained in this report include all applicable delivery charges, adjustments, taxes and surcharges. Charges for Government-provided appliances, services and furnishings will be based upon nationwide average costs.

The following sections of this report detail the consumption and cost data to be used in the circumstances described above. The cost data in this report will be updated by the Quarters Operations Office each year and distributed with the Consumer Price Index (CPI) adjustment that takes effect each year.

B. ENERGY CONSUMPTION STUDY

1. **General**. Energy consumption estimates are required where the Government furnishes the space heating or cooling fuel and the electricity, and where consumption is neither metered nor measured. In such instances, average energy consumption must be estimated and the Government must assess a charge based on private sector energy costs in the survey area. No methodology for estimating energy consumption can exactly predict the amounts of energy needed to heat or cool specific dwellings. Precise consumption measurements are possible only when metering is used. However, the methodology used in this report will yield **reasonable** estimates of the heating and cooling energy consumption requirements of unmetered dwellings. The methodology employed in this section was contractor-developed. For this report, however, the contractor-provided tables and conversion charts have been reformatted, and the methodology has been restated to simplify the process of estimating energy consumption requirements. The unit costs for various fuel types and for electricity (e.g., the cost per gallon for fuel oil and propane; the cost per MCF (1,000 cubic feet) for natural gas; and the cost per KwH for electricity) are regional averages of the unit fuel/electricity prices gathered by the contractor in each community surveyed.

2. **Housing Prototypes**. For the Southeast energy study, estimates of the heating and cooling energy requirements were prepared for each of the following six prototypical housing units.

   Type I - Single family, one story, no basement

   Type II - Single family, one story, full basement

   Type III - Single family, two story, no basement

   Type IV - Single family, two story, full basement

   Type V - Apartment unit

   Type VI - Mobile Home

3. **Assumptions**. For each of the housing prototypes, the following assumptions were made:

   a. Location. - The housing is located in Asheville, NC.

   b. R values. - Each housing type has the R values of insulation in floors, walls, and ceilings recommended in the HUD Minimum Property Standards (HUD-MPS) for the Asheville, NC area.

   c. Occupants. - The housing contains an average compliment of occupants who are energy conscious (one person per 500 feet of floor space was assumed).

   d. All measurements are of finished living space only and are based upon exterior dimensions.

   e. Condition. - The housing is in good condition.

f. Building shape. - A rectangular shape with a ratio of 2:1 was established. This provides more building skin than a square configuration therefore; the rectangular shape yields a conservative estimate of skin loads.

g. Window area. - A window area of 10 percent of wall area was used to match UBC (Uniform Building Code) minimum window area standards.

h. Roof type. - A flat or pitched roof with ceiling insulation was assumed in all cases.

i. Air changes. - 1.5 air changes per hour were established as representing a conservative estimate of air changes in residential applications.

j. Perimeter loss. - Approximately 10 percent of overall building load is attributed to the slab on grade floors with rigid insulation to a value of R-6.

4. Using the above assumptions, infiltration factors developed by the Department of Energy, R values, building dimensions, and cooling and heating degree days, a contractor has formulated methodologies for estimating British Thermal Unit (BTU) and kilowatt hour (KwH) consumption rates, and costs, for heating and cooling. The relevant portions of the methodology are explained below.

C. SPACE HEATING (FOSSIL FUEL) CONSUMPTION/COST CALCULATIONS

To illustrate the procedure for calculating the cost of heating with fossil fuel, a single story 1,850 square foot house, with no basement, located near Lexington, KY will be used as an example.

1. The first step is to select from among Tables 9a through 9f, the table that most closely describes the quarters unit at issue. In this case, Table 9a is for a 1-story, single-family house with a partial (50 percent or less) or no basement (Prototype I). When determining the prototype, use the total basement (finished and unfinished) square footage. Unfinished space is only considered when determining the prototype. It is never used when using a rent setting or consumption chart. Table 9a should be selected in this example.

2. The second step is to determine the number of BTU's consumed **annually** for heating the house used in this example. Select from Table 9a the annual MBTU (million BTU's) consumption appropriate for the heating degree days (HDD's) and the gross **finished** square footage of the house in this example. Use the table as shown below.

   a. Find the number of HDD's for the established community near which the quarters are located. Table 10 contains the HDD's for the nearest established communities in the Southeast survey region; this table shows that Lexington, KY has 4,713 HDD's. In Table 9a, 4,713 HDD's lies between the columns headed **"4,500"** and **"5,000."** Round 4,713 HDD's down to 4,500 HDD's.

   b. In Table 9a, 1,850 square feet (the size of the house used in the example) lies between 1,800 and 2,000 square feet; round 1,850 down to 1,800 square feet.

   c. From Table 9a (1,800 square feet and 4,500 HDD's) the annual MBTU consumption rate is 64.7 MBTU's.

3. The third step is to calculate the amount of fossil fuel needed to produce 64.7 MBTU's. Table 11 shows the amount of fossil fuel needed to produce 1 MBTU. The total amount of heating fuel required to produce 64.7 MBTU's is computed by multiplying the appropriate fuel factor in Table 11 by the number of MBTU's. In this case the fuel required is:

Natural gas:	64.7 MBTU's x 1 MCF	=	64.7 MCF.
Propane:	64.7 MBTU's x 10.2 gallons	=	659.94 gallons
Fuel oil:	64.7 MBTU's x 7.04 gallons	=	455.49 gallons

4. The fourth step is to calculate the annual cost of the fuel consumed. This can be done by multiplying the annual fuel consumption by the unit fuel charges shown in Table 12. Following this procedure, the charge for fuel consumed annually to produce 64.7 MBTU's is:

Natural gas:	64.7 MCF x $11.25 (per MCF)	=	$727.88
Propane:	659.94 gallons x $1.35(per gallon)	=	$890.92
Fuel oil:	455.49 gallons x $1.69 (per gallon)	=	$769.78

5. The fifth step is to calculate the monthly charge for fossil heating fuel. This is done simply by dividing the annual charges (above) by 12 (months). In this manner the monthly charges are: natural gas = $60.66; propane = $74.24 and fuel oil = $64.15.

6. The final step is to multiply the monthly charge (computed in step 5 above) by the appropriate HUD MPS Heating Zone conversion factor (Table 13). In order to use Table 13, it is first necessary to determine the HUD MPS Zone for the community at issue (Lexington, KY). Table 10 shows the HUD MPS Zones for the nearest established communities located within the Southeast survey region. From Table 10, it can be seen that Lexington, KY is in MPS Zone 5. The conversion factor can now be found in Table 13. The conversion factor for a single story dwelling with no basement (Prototype I) in HUD MPS Zone 5 is 1.15. Multiply the monthly charges determined in step 5 above by 1.15 (the conversion factor). In this manner, the heating fuel charge can be computed for any quarters unit in any community or location. In this example, the final monthly fossil fuel heating costs are $69.76 ($60.66 x 1.15) for natural gas, $85.38 ($74.24 x 1.15) for propane and $73.77 ($64.15 x 1.15) for fuel oil.

The above example pertained to a single story dwelling with a partial (50 percent or less) or no basement. When calculating the heating fuel charge for a different type of housing (including apartments and mobile homes), use the Table (9a through f) which most closely describes the quarters unit to compute the annual MBTU consumption.

TABLE 9a ANNUAL MBTU USAGE (MILLIONS BTU'S) - PROTOTYPE I
Single Family, One Story, Partial (Less Than 50%) or No Basement

BASELINE CITY - ASHEVILLE, NORTH CAROLINA

Gross Square Feet	HEATING DEGREE DAYS																
	100	200	300	700	900	1100	1300	1500	1700	1900	2100	2500	3000	3500	4000	4500	5000
100	0.1	0.2	0.2	0.6	0.7	0.9	1.0	1.2	1.4	1.5	1.7	2.0	2.4	2.8	3.2	3.6	4.0
200	0.2	0.3	0.5	1.1	1.4	1.8	2.1	2.4	2.7	3.0	3.4	4.0	4.8	5.6	6.4	7.2	8.0
400	0.3	0.6	1.0	2.2	2.9	3.5	4.2	4.8	5.4	6.1	6.7	8.0	9.6	11.2	12.8	14.4	16.0
600	0.5	1.0	1.4	3.4	4.3	5.3	6.2	7.2	8.1	9.1	10.1	12.0	14.4	16.8	19.2	21.6	24.0
800	0.6	1.3	1.9	4.5	5.7	7.0	8.3	9.6	10.9	12.1	13.4	16.0	19.2	22.4	25.6	28.7	31.9
1000	0.8	1.6	2.4	5.6	7.2	8.8	10.4	12.0	13.6	15.2	16.8	20.0	24.0	27.9	31.9	35.9	39.9
1200	1.0	1.9	2.9	6.7	8.6	10.5	12.5	14.4	16.3	18.2	20.1	24.0	28.7	33.5	38.3	43.1	47.9
1400	1.1	2.2	3.4	7.8	10.1	12.3	14.5	16.8	19.0	21.2	23.5	27.9	33.5	39.1	44.7	50.3	55.9
1600	1.3	2.6	3.8	8.9	11.5	14.1	16.6	19.2	21.7	24.3	26.8	31.9	38.3	44.7	51.1	57.5	63.9
1800	1.4	2.9	4.3	10.1	12.9	15.8	18.7	21.6	24.4	27.3	30.2	35.9	43.1	50.3	57.5	64.7	71.9
2000	1.6	3.2	4.8	11.2	14.4	17.6	20.8	24.0	27.1	30.3	33.5	39.9	47.9	55.9	63.9	71.9	79.8
2200	1.8	3.5	5.3	12.3	15.8	19.3	22.8	26.3	29.9	33.4	36.9	43.9	52.7	61.5	70.3	79.0	87.8
2400	1.9	3.8	5.7	13.4	17.2	21.1	24.9	28.7	32.6	36.4	40.2	47.9	57.5	67.1	76.7	86.2	95.8
2600	2.1	4.2	6.2	14.5	18.7	22.8	27.0	31.1	35.3	39.4	43.6	51.9	62.3	72.7	83.0	93.4	103.8
2800	2.2	4.5	6.7	15.7	20.1	24.6	29.1	33.5	38.0	42.5	47.0	55.9	67.1	78.3	89.4	100.6	111.8
3000	2.4	4.8	7.2	16.8	21.6	26.3	31.1	35.9	40.7	45.5	50.3	59.9	71.9	83.8	95.8	107.8	119.8

TABLE 9b ANNUAL MBTU USAGE (MILLIONS BTU'S) - PROTOTYPE II

Single Family, Single Story, Full Basement

BASELINE CITY - ASHEVILLE, NORTH CAROLINA

Gross Square Feet	HEATING DEGREE DAYS																
	100	200	300	700	900	1100	1300	1500	1700	1900	2100	2500	3000	3500	4000	4500	5000
100	0.1	0.1	0.2	0.4	0.5	0.6	0.8	0.9	1.0	1.1	1.2	1.5	1.8	2.1	2.3	2.6	2.9
200	0.1	0.2	0.4	0.8	1.1	1.3	1.5	1.8	2.0	2.2	2.5	2.9	3.5	4.1	4.7	5.3	5.9
400	0.2	0.5	0.7	1.6	2.1	2.6	3.1	3.5	4.0	4.5	4.9	5.9	7.0	8.2	9.4	10.6	11.7
600	0.4	0.7	1.1	2.5	3.2	3.9	4.6	5.3	6.0	6.7	7.4	8.8	10.6	12.3	14.1	15.9	17.6
800	0.5	0.9	1.4	3.3	4.2	5.2	6.1	7.0	8.0	8.9	9.9	11.7	14.1	16.4	18.8	21.1	23.5
1000	0.6	1.2	1.8	4.1	5.3	6.5	7.6	8.8	10.0	11.2	12.3	14.7	17.6	20.6	23.5	26.4	29.4
1200	0.7	1.4	2.1	4.9	6.3	7.8	9.2	10.6	12.0	13.4	14.8	17.6	21.1	24.7	28.2	31.7	35.2
1400	0.8	1.6	2.5	5.8	7.4	9.0	10.7	12.3	14.0	15.6	17.3	20.6	24.7	28.8	32.9	37.0	41.1
1600	0.9	1.9	2.8	6.6	8.5	10.3	12.2	14.1	16.0	17.9	19.7	23.5	28.2	32.9	37.6	42.3	47.0
1800	1.1	2.1	3.2	7.4	9.5	11.6	13.7	15.9	18.0	20.1	22.2	26.4	31.7	37.0	42.3	47.6	52.9
2000	1.2	2.3	3.5	8.2	10.6	12.9	15.3	17.6	20.0	22.3	24.7	29.4	35.2	41.1	47.0	52.9	58.7
2200	1.3	2.6	3.9	9.0	11.6	14.2	16.8	19.4	22.0	24.6	27.1	32.3	38.8	45.2	51.7	58.1	64.6
2400	1.4	2.8	4.2	9.9	12.7	15.5	18.3	21.1	24.0	26.8	29.6	35.2	42.3	49.3	56.4	63.4	70.5
2600	1.5	3.1	4.6	10.7	13.7	16.8	19.9	22.9	26.0	29.0	32.1	38.2	45.8	53.4	61.1	68.7	76.4
2800	1.6	3.3	4.9	11.5	14.8	18.1	21.4	24.7	28.0	31.2	34.5	41.1	49.3	57.6	65.8	74.0	82.2
3000	1.8	3.5	5.3	12.3	15.9	19.4	22.9	26.4	30.0	33.5	37.0	44.0	52.9	61.7	70.5	79.3	88.1

TABLE 9c ANNUAL MBTU USAGE (MILLIONS BTU'S) - PROTOTYPE III

Single Family, Two Story, Partial (Less Than 50%) or No Basement

BASELINE CITY - ASHEVILLE, NORTH CAROLINA

Gross Square Feet	HEATING DEGREE DAYS																
	100	200	300	700	900	1100	1300	1500	1700	1900	2100	2500	3000	3500	4000	4500	5000
100	0.1	0.1	0.2	0.5	0.6	0.7	0.9	1.0	1.2	1.3	1.4	1.7	2.0	2.4	2.7	3.1	3.4
200	0.1	0.3	0.4	0.9	1.2	1.5	1.8	2.0	2.3	2.6	2.8	3.4	4.1	4.7	5.4	6.1	6.8
400	0.3	0.5	0.8	1.9	2.4	3.0	3.5	4.1	4.6	5.2	5.7	6.8	8.1	9.5	10.9	12.2	13.6
600	0.4	0.8	1.2	2.8	3.7	4.5	5.3	6.1	6.9	7.7	8.5	10.2	12.2	14.2	16.3	18.3	20.4
800	0.5	1.1	1.6	3.8	4.9	6.0	7.1	8.1	9.2	10.3	11.4	13.6	16.3	19.0	21.7	24.4	27.1
1000	0.7	1.4	2.0	4.7	6.1	7.5	8.8	10.2	11.5	12.9	14.2	17.0	20.4	23.7	27.1	30.5	33.9
1200	0.8	1.6	2.4	5.7	7.3	9.0	10.6	12.2	13.8	15.5	17.1	20.4	24.4	28.5	32.6	36.6	40.7
1400	0.9	1.9	2.8	6.6	8.5	10.4	12.3	14.2	16.1	18.0	19.9	23.7	28.5	33.2	38.0	42.7	47.5
1600	1.1	2.2	3.3	7.6	9.8	11.9	14.1	16.3	18.5	20.6	22.8	27.1	32.6	38.0	43.4	48.9	54.3
1800	1.2	2.4	3.7	8.5	11.0	13.4	15.9	18.3	20.8	23.2	25.6	30.5	36.6	42.7	48.9	55.0	61.1
2000	1.4	2.7	4.1	9.5	12.2	14.9	17.6	20.4	23.1	25.8	28.5	33.9	40.7	47.5	54.3	61.1	67.9
2200	1.5	3.0	4.5	10.4	13.4	16.4	19.4	22.4	25.4	28.4	31.3	37.3	44.8	52.2	59.7	67.2	74.6
2400	1.6	3.3	4.9	11.4	14.7	17.9	21.2	24.4	27.7	30.9	34.2	40.7	48.9	57.0	65.1	73.3	81.4
2600	1.8	3.5	5.3	12.3	15.9	19.4	22.9	26.5	30.0	33.5	37.0	44.1	52.9	61.7	70.6	79.4	88.2
2800	1.9	3.8	5.7	13.3	17.1	20.9	24.7	28.5	32.3	36.1	39.9	47.5	57.0	66.5	76.0	85.5	95.0
3000	2.0	4.1	6.1	14.2	18.3	22.4	26.5	30.5	34.6	38.7	42.7	50.9	61.1	71.2	81.4	91.6	101.8

TABLE 9d ANNUAL MBTU USAGE (MILLIONS BTU'S) - PROTOTYPE IV

Single Family, Two Story, Full Basement

BASELINE CITY - ASHEVILLE, NORTH CAROLINA

Gross Square Feet	HEATING DEGREE DAYS																
	100	200	300	700	900	1100	1300	1500	1700	1900	2100	2500	3000	3500	4000	4500	5000
100	0.1	0.2	0.2	0.5	0.7	0.8	1.0	1.1	1.3	1.4	1.6	1.9	2.3	2.7	3.0	3.4	3.8
200	0.2	0.3	0.5	1.1	1.4	1.7	2.0	2.3	2.6	2.9	3.2	3.8	4.6	5.3	6.1	6.8	7.6
400	0.3	0.6	0.9	2.1	2.7	3.3	3.9	4.6	5.2	5.8	6.4	7.6	9.1	10.6	12.1	13.7	15.2
600	0.5	0.9	1.4	3.2	4.1	5.0	5.9	6.8	7.7	8.6	9.6	11.4	13.7	15.9	18.2	20.5	22.8
800	0.6	1.2	1.8	4.2	5.5	6.7	7.9	9.1	10.3	11.5	12.7	15.2	18.2	21.2	24.3	27.3	30.3
1000	0.8	1.5	2.3	5.3	6.8	8.3	9.9	11.4	12.9	14.4	15.9	19.0	22.8	26.5	30.3	34.1	37.9
1200	0.9	1.8	2.7	6.4	8.2	10.0	11.8	13.7	15.5	17.3	19.1	22.8	27.3	31.9	36.4	41.0	45.5
1400	1.1	2.1	3.2	7.4	9.6	11.7	13.8	15.9	18.1	20.2	22.3	26.5	31.9	37.2	42.5	47.8	53.1
1600	1.2	2.4	3.6	8.5	10.9	13.3	15.8	18.2	20.6	23.1	25.5	30.3	36.4	42.5	48.5	54.6	60.7
1800	1.4	2.7	4.1	9.6	12.3	15.0	17.7	20.5	23.2	25.9	28.7	34.1	41.0	47.8	54.6	61.4	68.3
2000	1.5	3.0	4.6	10.6	13.7	16.7	19.7	22.8	25.8	28.8	31.9	37.9	45.5	53.1	60.7	68.3	75.9
2200	1.7	3.3	5.0	11.7	15.0	18.4	21.7	25.0	28.4	31.7	35.0	41.7	50.1	58.4	66.7	75.1	83.4
2400	1.8	3.6	5.5	12.7	16.4	20.0	23.7	27.3	30.9	34.6	38.2	45.5	54.6	63.7	72.8	81.9	91.0
2600	2.0	3.9	5.9	13.8	17.7	21.7	25.6	29.6	33.5	37.5	41.4	49.3	59.2	69.0	78.9	88.7	98.6
2800	2.1	4.2	6.4	14.9	19.1	23.4	27.6	31.9	36.1	40.4	44.6	53.1	63.7	74.3	85.0	95.6	106.2
3000	2.3	4.6	6.8	15.9	20.5	25.0	29.6	34.1	38.7	43.2	47.8	56.9	68.3	79.6	91.0	102.4	113.8

TABLE 9e ANNUAL MBTU USAGE (MILLIONS BTU'S) - PROTOTYPE V

Apartments

BASELINE CITY - ASHEVILLE, NORTH CAROLINA

Gross Square Feet	HEATING DEGREE DAYS																
	100	200	300	700	900	1100	1300	1500	1700	1900	2100	2500	3000	3500	4000	4500	5000
100	0.0	0.1	0.1	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.4	1.6	1.8	2.0	2.3
200	0.1	0.2	0.3	0.6	0.8	1.0	1.2	1.4	1.5	1.7	1.9	2.3	2.7	3.2	3.6	4.1	4.6
400	0.2	0.4	0.5	1.3	1.6	2.0	2.4	2.7	3.1	3.5	3.8	4.6	5.5	6.4	7.3	8.2	9.1
600	0.3	0.5	0.8	1.9	2.5	3.0	3.5	4.1	4.6	5.2	5.7	6.8	8.2	9.6	10.9	12.3	13.7
800	0.4	0.7	1.1	2.5	3.3	4.0	4.7	5.5	6.2	6.9	7.6	9.1	10.9	12.7	14.6	16.4	18.2
1000	0.5	0.9	1.4	3.2	4.1	5.0	5.9	6.8	7.7	8.6	9.6	11.4	13.7	15.9	18.2	20.5	22.8
1200	0.5	1.1	1.6	3.8	4.9	6.0	7.1	8.2	9.3	10.4	11.5	13.7	16.4	19.1	21.8	24.6	27.3
1400	0.6	1.3	1.9	4.5	5.7	7.0	8.3	9.6	10.8	12.1	13.4	15.9	19.1	22.3	25.5	28.7	31.9
1600	0.7	1.5	2.2	5.1	6.6	8.0	9.5	10.9	12.4	13.8	15.3	18.2	21.8	25.5	29.1	32.8	36.4
1800	0.8	1.6	2.5	5.7	7.4	9.0	10.6	12.3	13.9	15.6	17.2	20.5	24.6	28.7	32.8	36.9	41.0
2000	0.9	1.8	2.7	6.4	8.2	10.0	11.8	13.7	15.5	17.3	19.1	22.8	27.3	31.9	36.4	41.0	45.5
2200	1.0	2.0	3.0	7.0	9.0	11.0	13.0	15.0	17.0	19.0	21.0	25.0	30.0	35.0	40.0	45.1	50.1
2400	1.1	2.2	3.3	7.6	9.8	12.0	14.2	16.4	18.6	20.8	22.9	27.3	32.8	38.2	43.7	49.2	54.6
2600	1.2	2.4	3.5	8.3	10.6	13.0	15.4	17.7	20.1	22.5	24.8	29.6	35.5	41.4	47.3	53.2	59.2
2800	1.3	2.5	3.8	8.9	11.5	14.0	16.6	19.1	21.7	24.2	26.8	31.9	38.2	44.6	51.0	57.3	63.7
3000	1.4	2.7	4.1	9.6	12.3	15.0	17.7	20.5	23.2	25.9	28.7	34.1	41.0	47.8	54.6	61.4	68.3

TABLE 9f ANNUAL MBTU USAGE (MILLIONS BTU'S) - PROTOTYPE VI

Mobile Homes

BASELINE CITY - ASHEVILLE, NORTH CAROLINA

Gross Square Feet	HEATING DEGREE DAYS																
	100	200	300	700	900	1100	1300	1500	1700	1900	2100	2500	3000	3500	4000	4500	5000
100	0.1	0.3	0.4	0.9	1.2	1.4	1.7	1.9	2.2	2.4	2.7	3.2	3.8	4.5	5.1	5.8	6.4
200	0.3	0.5	0.8	1.8	2.3	2.8	3.3	3.8	4.4	4.9	5.4	6.4	7.7	9.0	10.2	11.5	12.8
400	0.5	1.0	1.5	3.6	4.6	5.6	6.7	7.7	8.7	9.7	10.8	12.8	15.4	17.9	20.5	23.1	25.6
600	0.8	1.5	2.3	5.4	6.9	8.5	10.0	11.5	13.1	14.6	16.1	19.2	23.1	26.9	30.7	34.6	38.4
800	1.0	2.0	3.1	7.2	9.2	11.3	13.3	15.4	17.4	19.5	21.5	25.6	30.7	35.9	41.0	46.1	51.2
1000	1.3	2.6	3.8	9.0	11.5	14.1	16.7	19.2	21.8	24.3	26.9	32.0	38.4	44.8	51.2	57.7	64.1
1200	1.5	3.1	4.6	10.8	13.8	16.9	20.0	23.1	26.1	29.2	32.3	38.4	46.1	53.8	61.5	69.2	76.9
1400	1.8	3.6	5.4	12.6	16.1	19.7	23.3	26.9	30.5	34.1	37.7	44.8	53.8	62.8	71.7	80.7	89.7
1600	2.0	4.1	6.1	14.3	18.4	22.5	26.6	30.7	34.8	38.9	43.0	51.2	61.5	71.7	82.0	92.2	102.5
1800	2.3	4.6	6.9	16.1	20.8	25.4	30.0	34.6	39.2	43.8	48.4	57.7	69.2	80.7	92.2	103.8	115.3
2000	2.6	5.1	7.7	17.9	23.1	28.2	33.3	38.4	43.6	48.7	53.8	64.1	76.9	89.7	102.5	115.3	128.1
2200	2.8	5.6	8.5	19.7	25.4	31.0	36.6	42.3	47.9	53.6	59.2	70.5	84.6	98.7	112.7	126.8	140.9
2400	3.1	6.1	9.2	21.5	27.7	33.8	40.0	46.1	52.3	58.4	64.6	76.9	92.2	107.6	123.0	138.4	153.7
2600	3.3	6.7	10.0	23.3	30.0	36.6	43.3	50.0	56.6	63.3	70.0	83.3	99.9	116.6	133.2	149.9	166.6
2800	3.6	7.2	10.8	25.1	32.3	39.5	46.6	53.8	61.0	68.2	75.3	89.7	107.6	125.6	143.5	161.4	179.4
3000	3.8	7.7	11.5	26.9	34.6	42.3	50.0	57.7	65.3	73.0	80.7	96.1	115.3	134.5	153.7	173.0	192.2

TABLE 10 HEATING/COOLING DEGREE DAYS AND MPS ZONES

Community	Heating Degree Days	Cooling Degree Days	HUD MPS Zone
FLORIDA			
Blountstown, FL	1,604	2,551	2
Brooksville, FL	710	3,110	2
Clewiston, FL	356	3,810	2
Crystal River, FL	993	3,027	2
De Land, FL	954	2,819	1
Delray Beach, FL	219	4,241	1
Florida City, FL	221	3,780	1
Ft. Lauderdale, FL	167	4,120	1
Ft. Meyers, FL	302	3,957	1
Ft. Walton Beach, FL	1,920	2,271	1
Homestead, FL	221	3,780	1
Jacksonville, FL	1,278	2,817	2
Key Largo, FL	128	4,391	1
Key West, FL	62	4,830	1
Lake City, FL	1,281	2,672	2
Marathon, FL	87	4,769	1
Miami, FL	149	4,361	1
Naples, FL	316	3,646	1
Palatka, FL	1,023	2,920	1
St. Augustine, FL	1,108	2,612	2
Stuart, FL	315	3,600	1
Tallahassee, FL	1,604	2,551	2
Umatilla, FL	1,009	2,802	1
GEORGIA			
Atlanta, GA	2,827	1,810	3
Clayton, GA	4,102	839	4
Cleveland, GA	3,939	1,021	4
Cornelia, GA	3,828	1,076	4
Darien, GA	1,704	2,396	2

TABLE 10 HEATING/COOLING DEGREE DAYS AND MPS ZONES

Community	Heating Degree Days	Cooling Degree Days	HUD MPS Zone
GEORGIA			
Dahlonega, GA	4,078	902	4
Dalton, GA	3,377	1,622	3
Dublin, GA	2,307	2,250	3
Eatonton, GA	3,070	1,622	3
Folkston, GA	1,332	2,646	2
Ft. Oglethorpe, GA	3,377	1,622	4
Gray, GA	2,794	1,829	2
Homerville, GA	2,069	1,999	2
Macon, GA	2,364	2,115	2
Manchester, GA	2,902	1,610	2
Marietta, GA	3,505	1,403	3
Millen, GA	2,508	1,926	3
Monticello, GA	2,794	1,829	3
Port Wentworth, GA	1,799	2,454	2
Rome, GA	3,510	1,360	3
Roswell, GA	3,505	1,403	3
St. Marys, GA	1,308	2,942	2
St. Simons Island, GA	1,704	2,396	2
Sandy Springs, GA	3,490	1,327	2
Savannah, GA	1,799	2,454	2
KENTUCKY			
Ashland, KY	5,217	943	5
Berea, KY	4,231	1,150	5
Corbin, KY	4,374	1,099	5
Harlan, KY	4,604	1,005	5
Hazard, KY	4,712	1,001	5
Lexington, KY	4,713	1,154	5
London, KY	4,734	1,099	4
Manchester, KY	4,766	901	4
Middlesboro, KY	4,594	973	5
Morehead, KY	4,821	1,064	5

TABLE 10 HEATING/COOLING DEGREE DAYS AND MPS ZONES

Community	Heating Degree Days	Cooling Degree Days	HUD MPS Zone
KENTUCKY			
Mt. Sterling, KY	4,880	1,063	5
Pine Knot, KY	4,788	900	5
Russell Springs, KY	4,356	1,237	5
Stearns, KY	4,788	900	5
MARYLAND			
Hancock, MD	5,351	783	6
NORTH CAROLINA			
Asheville, NC	4,237	877	2
Beaufort, NC	2,416	1,931	3
Belhaven, NC	2,807	1,718	3
Boone, NC	6,090	257	5
Brevard, NC	4,640	591	4
Burgaw, NC	2,396	1,952	3
Burnsville, NC	5,060	442	4
Edenton, NC	2,909	1,667	3
Fayetteville, NC	3,097	1,721	4
Franklin, NC	4,457	775	5
Greensboro, NC	3,848	1,332	4
Lenoir, NC	4,039	1,144	4
Marion, NC	4,033	1,093	4
Murphy, NC	4,198	969	4
Nags Head, NC	2,789	1,683	3
Plymouth, NC	2,799	1,707	3
Rockingham, NC	3,315	1,566	4
Salisbury, NC	3,356	1,466	4
Sparta, NC	4,491	962	5
Spruce Pine, NC	5,060	442	4
Sylva, NC	4,294	802	5
Troy, NC	3,589	1,382	4
Waynesville, NC	4,999	450	5

TABLE 10 HEATING/COOLING DEGREE DAYS AND MPS ZONES

Community	Heating Degree Days	Cooling Degree Days	HUD MPS Zone
SOUTH CAROLINA			
Abbeyville, SC	3,255	1,558	4
Blacksburg, SC	3,737	1,223	4
Charleston, SC	1,755	2,473	2
Gaffney, SC	3,737	1,223	4
Georgetown, SC	2,065	2,049	2
Hartsville, SC	2,408	1,999	2
Moncks Corner, SC	2,128	2,012	2
Mt. Pleasant, SC	1,755	2,473	2
Newberry, SC	3,043	1,730	2
Orangeburg, SC	2,552	2,011	2
Sullivans Island, SC	2,260	2,124	2
Walhalla, SC	3,567	1,302	3
TENNESSEE			
Bristol, TN	4,445	956	5
Cleveland, TN	3,782	1,333	5
Erwin, TN	4,338	938	5
Gatlinburg, TN	4,362	797	4
Greenville, TN	4,928	773	4
Harrogate, TN	4,846	948	4
Johnson City, TN	4,555	907	4
Madisonville, TN	4,036	1,261	4
Maryville, TN	3,796	1,501	4
Newport, TN	4,058	1,187	4
Oneida, TN	4,789	881	4
Pigeon Forge, TN	4,362	797	4
Smithville, TN	4,476	1,092	4
VIRGINIA			
Abingdon, VA	4,940	736	5
Appomattox, VA	4,510	1,052	4
Bedford, VA	4,439	1,021	4
Chincoteague, VA	4,243	1,095	4
Coeburn, VA	4,901	605	5

TABLE 10 HEATING/COOLING DEGREE DAYS AND MPS ZONES

Community	Heating Degree Days	Cooling Degree Days	HUD MPS Zone
VIRGINIA			
Colonial Beach, VA	3,761	1,527	4
Covington, VA	4,920	846	5
Elkton, VA	6,898	180	5
Fredericksburg, VA	4,455	1,182	4
Front Royal, VA	5,099	848	5
Harrisonburg, VA	5,333	758	5
Hampton, VA	3,535	1,432	4
Hillsville, VA	5,728	410	5
Hopeville, VA	3,334	1,619	3
Lexington, VA	4,896	881	4
Luray, VA	4,548	862	5
Lynchburg, VA	4,354	1,075	4
Newport News, VA	3,368	1,612	4
Petersburg, VA	3,334	1,619	4
Richmond, VA	3,919	1,435	4
Roanoke, VA	4,315	1,085	5
Salem, VA	4,315	1,085	5
Staunton, VA	5,447	622	5
Suffolk, VA	3,467	1,427	4
Virginia Beach, VA	3,336	1,482	4
Waynesboro, VA	5,447	622	4
Williamsburg, VA	3,629	1,364	4
Wise, VA	4,901	605	5
Woodstock, VA	5,099	848	5
WEST VIRGINIA			
Beckley, WV	5,427	529	6
Charlestown, WV	5,508	742	6
Elkins, WV	6,036	416	6
Huntington, WV	4,737	1,128	6
Petersburg, WV	7,181	134	6
Richwood, WV	5,968	392	6
Ronceverte, WV	5,672	530	6
White Sulphur Springs, WV	5,672	530	6

TABLE 11 FUEL REQUIRED TO PRODUCE 1 MBTU

Type of Fuel	Amount Needed To Produce 1 MBTU
Natural Gas	1 MCF (1,000 cu. ft.)
Propane	10.2 Gallons
Fuel Oil	7.04 Gallons

TABLE 12 HEATING FUEL COST

Type of Fuel	Charge per unit
Natural Gas	$11.25
Propane	$1.35
Fuel Oil #2	$1.69

TABLE 13 MPS HEATING ZONE CONVERSION FACTORS

	Dwelling Prototypes					
	I	II	III	IV	V	VI
HUD MPS Heating Zone	Single Story No Basement	Single Story Full Basement	Double Story No Basement	Double Story Full Basement	Apart-ments	Mobile Homes
1	1.06	1.08	1.07	1.06	1.11	1.07
2	1.07	1.09	1.08	1.07	1.12	1.08
3	1.17	1.23	1.20	1.18	1.30	1.19
4	1.00	1.00	1.00	1.00	1.00	1.00
5	1.15	1.20	1.18	1.16	1.26	1.17
6	.96	.95	.95	.96	.93	.96
7						
8						

D. SPACE HEATING (ELECTRICITY) CONSUMPTION/COST CALCULATIONS

The procedure for calculating electrical consumption and costs for space heating (where electricity is unmetered or otherwise unmeasured) is similar to the procedure used for fossil fuels. Tables 14a through 14f are used.

1. Select from these tables the dwelling prototype most similar to the quarters at issue.

2. Determine the annual kilowatt hour (KwH) consumption by finding the appropriate columns for square feet and HDD (heating degree days). Note: HDD's for the nearest established communities may be found in Table 10.

3. Divide the annual KwH by 12 to determine the monthly average electrical consumption.

4. Adjust for HUD MPS Heating Zone, using the conversion factors in Table 13.

5. Adjust for heat pump (if applicable).

6. Determine the appropriate charge per KwH from the table below. **Do not calculate the total cost of electricity in steps such as the first 500 KwH costs so much, then the second 500 KwH costs so much etc.**

KwH Consumed Per Month	Charge per KwH
1 -500	$.090
501 - 1,000	$.083
1,001 -1,500	$.081
Over 1,500	$.079

7. Compute the monthly charge for space heating by multiplying the appropriate charge per KwH times the number of KwH consumed per month.

8. Example: The average monthly electric heating charge for a single family, 2,100 square foot, two story, no basement home located near Sylva, NC is computed as follows:

   a. Step 1. Select the table (table 14a through f) that most closely describes the quarters unit at issue. In this case, table 14c (single family, two story, no basement - prototype III) should be selected.

   b. Step 2. Determine from table 14c the annual KwH consumption appropriate for the heating degree days (HDD) and the gross square footage of the house in this example. Use the table as follows:

      1) Find the number of heating degree days for the established community in which the quarters is located. Table 10 (which contains the HDD for established communities in the Southeast survey region) shows that Sylva, NC has 4,294 HDD. In table 14c, the number of HDD's in

Sylva, NC (4,294) lies between the column headed 4,000 and the column headed 4,500. Round down to 4,000 HDD.

2) In table 14c, 2,100 square feet (the size of the house used in this example) lies between 2,000 and 2,200 square feet. Round 2,100 down to 2,000 square feet.

3) From table 14c (2,000 square feet and 4,000 HDD) the annual KwH consumption rate is 12,724 KwH.

c. Step 3. Calculate the monthly KwH consumption by dividing the annual KwH by 12 (months). In this instance, the monthly consumption is 1,060.33 KwH (12,724 / 12 = 1,060.33).

d. Step 4, HUD MPS Zone adjustment. The HUD MPS zone adjustment is made as follows:

1) Use Table 10 to find the HUD MPS zone for the community at issue. In this manner, Sylva, NC is found to be in HUD MPS zone 5.

2) In Table 13, determine the adjustment factor for the appropriate dwelling type and MPS zone. The factor for housing prototype III in HUD MPS zone 5 is 1.18.

3) Multiply the monthly electric consumption (as computed in paragraph 8c, above) times the HUD MPS adjustment factor (1,060.33 x 1.18 = 1,251.19 KwH per month).

e. Step 5, **Adjustment for heat pump**. The process described above is used for computing the electrical consumption for heating with a straight resistance heating system. Where a dwelling is heated with an electric heat pump, the straight resistance heating consumption (1,251.19 KwH in this example) should be multiplied by a factor of .75, which represents the greater efficiency of the heat pump. In this example, the monthly electric consumption for a heat pump as the heating source would be 938.39 (1,251.19 x .75 = 938.39).

f. Step 6. The final step is to compute the monthly charge for the electricity consumed. This is done by multiplying the charge per KwH times the KwH consumed per month. The appropriate charge per KwH may be found in the table below.

KwH Consumed Per Month	Charge per KwH
1 -500	$.090
501 - 1,000	$.083
1,001 - 1,500	$.081
Over 1,500	$.079

In this example, the average monthly consumption (1,251.19 KwH) for resistance heat falls in the "1,001 - 1,500" KwH per month consumption category; the appropriate charge is $0.081 per KwH. The average monthly consumption (938.39 KwH) for a heat pump falls in the "501 – 1,000" KwH per month consumption category; and the appropriate unit charge is $0.083 per KwH.

Therefore, the monthly electric heating charge for the house used in this example is computed as follows:

Resistance heat: 1,251.19 KwH x $.081 = $101.35

Heat pump: 938.39 KwH x $.083 = $77.89

E. SPACE COOLING CONSUMPTION/COST

Space cooling costs are calculated in the same manner as for electric space heating except that CDD (Cooling Degree Day) values are used in lieu of HDD values. CDD values for the Nearest Established Communities are found in Table 10. Additionally, only Tables 14a through 14f are used in calculating cooling energy consumption. Briefly, the steps are as follows.

1. Select from Tables 14a through 14f, the table that most closely describes the quarters unit at issue.

2. Based on the size of the dwelling (square feet) and the number of CDD (from Table 10), use the appropriate Table (14a-f) to determine the annual KwH consumption.

3. Divide the annual KwH consumption by 12 (months) to determine the average number of KwH consumed per month.

4. Apply the HUD MPS Zone adjustment factor.

5. Apply the Coefficient of Performance (COP) adjustment.

6. Determine the appropriate charge per KwH from the table below.

KwH Consumed Per Month	Charge per KwH
1 - 500	$.090
501 - 1,000	$.083
1,001 - 1,500	$.081
Over 1,500	$.079

7. Compute the monthly charge for space cooling by multiplying the appropriate charge per KwH times the number of KwH consumed per month.

8. Example: Compute the average monthly electric cooling charge for a 1,275 SQFT mobile home near Homestead, FL

   a. STEP 1: Table Selection. Select the table (table 14a through 14f), which most closely describes the quarters unit at issue. Table 14f (Mobile Home - prototype VI) should be selected.

   b. STEP 2: Annual KwH Consumption. Determine from table 14f the annual KwH consumption appropriate for the cooling degree days (CDD) and the gross square footage of the mobile home in this example. Use the table as follows:

      1) Find the number of cooling degree days for the established community closest to the quarters. Table 10 (which contains the CDD for established communities in the Southeast survey region) shows that Homestead, FL has 3,780 CDD. In table 14f, 3,780 CDD lies between the columns headed 3,500 and 4,000. Round down to 3,500 CDD.

      2) In table 14f, 1,275 square feet (the size of the mobile home used in this example) lies between 1,200 and 1,400 square feet. Round down to 1,200 square feet.

      3) From table 14f (1,200 square feet and 3,500 CDD) the annual KwH consumption rate is 12,614 KwH.

   c. STEP 3: Monthly Consumption. Calculate the monthly KwH consumption by dividing the annual KwH consumption by 12 (months). In this instance, the monthly consumption is 1,051.17 KwH rounded (12,614 / 12 = 1,051.17).

   d. STEP 4: HUD MPS Zone Adjustment. The HUD MPS Zone adjustment is made as follows:

      1) Use Table 10 to find the HUD MPS zone for the community at issue. In this manner, Homestead, FL is found to be in HUD MPS Zone 1.

      2) In Table 15, determine the adjustment factor for the appropriate dwelling unit type and MPS zone. The factor for housing prototype VI in HUD MPS zone 1 is 4.35.

3) Multiply the monthly electric consumption (as computed in paragraph 8c, above) times the HUD MPS Zone adjustment factor 1,051.17 x 4.35 = 4,572.59 KwH per month.

e. STEP 5: Adjustment for Coefficient of Performance (COP). This adjustment accounts for the differences in the efficiencies of evaporative (swamp) and refrigerated air central cooling systems.

1) Evaporative (swamp) cooling. For a central evaporative cooling system the adjusted KwH (computed in Step 4, above) is divided by a factor of 6.66. In this example, the monthly KwH requirement for central evaporative cooling is computed as 4,572.59 / 6.66 = 686.58 KwH per month.

2) Refrigerated air cooling. For a central refrigerated air cooling system, the adjusted KwH (computed in step 4, above) is divided by a factor of 2. In this example, the monthly KwH requirement for central refrigerated air cooling is computed as 4,572.59 / 2 = 2,286.30 KwH per month.

f. STEP 6: Monthly Charge. The final step is to compute the monthly charge for the electricity consumed. This is done by multiplying the charge per KwH times the KwH consumed per month. The appropriate charge per KwH may be found in the table below.

KwH Consumed Per Month	Charge per KwH
1 - 500	$.090
501 - 1,000	$.083
1,001 - 1,500	$.081
Over 1,500	$.079

In this example, the average monthly consumption (686.58 KwH) for evaporative cooling falls in the "501 – 1,001" KwH consumption range. The (2,286.30 KwH) for refrigerated cooling falls in the "Over 1,500" KwH consumption range. The appropriate charge will be $0.083 per KwH for evaporative cooling and $.079 for refrigerated cooling.

Therefore, the monthly charges for cooling the mobile home used in this example would be computed as follows.

Evaporative cooling: 686.58 KwH x $0.083 = $56.99

Refrigerated cooling: 2,286.30 KwH x $0.079 = $180.62

9. Gas powered Central Air Conditioning Units. If the central air conditioning unit is gas operated (natural gas or propane), the charge is computed as follows:

a. Compute the KwH consumption in same manner as shown in steps 1 through 4 above (Note: the calculations through step 4 produce 4,572.59 KwH per month).

b. Calculate the Coefficient of Performance (COP) adjustment in step 5 above for refrigerated air conditioning; that is, divide the number of KwH in paragraph 9a, above (4,572.59 KwH) by the COP (2); for example 4,572.59 / 2 = 2,286.30 KwH.

c. Convert the monthly KwH to MBTU's by dividing the KwH calculated in paragraph 9b, above by 234.4. Thus, 2,286.30 KwH / 234.4 (KwH per MBTU) = 9.75 MBTU's. [It takes 234.4 Kilowatts to generate 1 MBTU]

d. Calculate the volumes of natural gas and propane needed to produce 9.75 MBTU's. This is done as follows.

1) Natural Gas. For central air conditioning units that operate on natural gas, multiply the MBTU's calculated in paragraph 9c above by 1 MCF (9.75 MBTU's x 1 MCF = 9.75 MCF). Thus, 9.75 MCF of natural gas would be required per month (annual average) to cool the dwelling in this example.

2) Propane. For central air conditioning units that operate on propane gas, multiply the MBTU's calculated in paragraph 9c above by 10.2 gallons (9.75 MBTU's x 10.2 gallons = 99.45 gallons). Thus, 99.45 gallons of propane would be required per month (annual average) to cool the dwelling in this example.

e. Calculate the monthly charge for natural gas or propane consumed. This is done by multiplying the volume of fuel consumed by the unit cost of the fuel. These calculations are shown below.

Natural gas: 9.75 MCF x $11.25 per MCF = $109.69 (rounded) per month.

Propane gas: 99.45 gallons x $1.35 per gallon = $134.26 (rounded) per month.

TABLE 14a ANNUAL KwH USAGE (ELECTRIC HEATING/COOLING) - PROTOTYPE I
Single Family, One Story, Partial (Less Than 50%) or No Basement

BASELINE CITY - ASHEVILLE, NORTH CAROLINA

Gross Square Feet	HEATING OR COOLING DEGREE DAYS																
	100	200	300	700	900	1100	1300	1500	1700	1900	2100	2500	3000	3500	4000	4500	5000
100	19	37	56	131	168	206	243	281	318	356	393	468	561	655	749	842	936
200	37	75	112	262	337	412	487	561	636	711	786	936	1123	1310	1497	1684	1872
400	75	150	225	524	674	824	973	1123	1273	1422	1572	1872	2246	2620	2995	3369	3743
600	112	225	337	786	1011	1235	1460	1684	1909	2134	2358	2807	3369	3930	4492	5053	5615
800	150	299	449	1048	1348	1647	1946	2246	2545	2845	3144	3743	4492	5241	5989	6738	7486
1000	187	374	561	1310	1684	2059	2433	2807	3182	3556	3930	4679	5615	6551	7486	8422	9358
1200	225	449	674	1572	2021	2471	2920	3369	3818	4267	4716	5615	6738	7861	8984	10107	11230
1400	262	524	786	1834	2358	2882	3406	3930	4454	4978	5503	6551	7861	9171	10481	11791	13101
1600	299	599	898	2096	2695	3294	3893	4492	5091	5690	6289	7486	8984	10481	11978	13476	14973
1800	337	674	1011	2358	3032	3706	4380	5053	5727	6401	7075	8422	10107	11791	13476	15160	16844
2000	374	749	1123	2620	3369	4118	4866	5615	6363	7112	7861	9358	11230	13101	14973	16844	18716
2200	412	824	1235	2882	3706	4529	5353	6176	7000	7823	8647	10294	12353	14411	16470	18529	20588
2400	449	898	1348	3144	4043	4941	5839	6738	7636	8535	9433	11230	13476	15722	17967	20213	22459
2600	487	973	1460	3406	4380	5353	6326	7299	8273	9246	10219	12165	14599	17032	19465	21898	24331
2800	524	1048	1572	3668	4716	5765	6813	7861	8909	9957	11005	13101	15722	18342	20962	23582	26203
3000	561	1123	1684	3930	5053	6176	7299	8422	9545	10668	11791	14037	16844	19652	22459	25267	28074

TABLE 14b ANNUAL KwH USAGE (ELECTRIC HEATING/COOLING) - PROTOTYPE II
Single Family, Single Story, Full Basement

BASELINE CITY - ASHEVILLE, NORTH CAROLINA

Gross Square Feet	HEATING OR COOLING DEGREE DAYS																
	100	200	300	700	900	1100	1300	1500	1700	1900	2100	2500	3000	3500	4000	4500	5000
100	14	28	41	96	124	151	179	207	234	262	289	344	413	482	551	620	688
200	28	55	83	193	248	303	358	413	468	523	578	688	826	964	1101	1239	1377
400	55	110	165	385	496	606	716	826	936	1046	1156	1377	1652	1927	2203	2478	2753
600	83	165	248	578	743	909	1074	1239	1404	1569	1735	2065	2478	2891	3304	3717	4130
800	110	220	330	771	991	1211	1432	1652	1872	2093	2313	2753	3304	3855	4405	4956	5507
1000	138	275	413	964	1239	1514	1790	2065	2340	2616	2891	3442	4130	4818	5507	6195	6883
1200	165	330	496	1156	1487	1817	2148	2478	2808	3139	3469	4130	4956	5782	6608	7434	8260
1400	193	385	578	1349	1735	2120	2506	2891	3276	3662	4047	4818	5782	6746	7709	8673	9637
1600	220	441	661	1542	1982	2423	2863	3304	3745	4185	4626	5507	6608	7709	8811	9912	11013
1800	248	496	743	1735	2230	2726	3221	3717	4213	4708	5204	6195	7434	8673	9912	11151	12390
2000	275	551	826	1927	2478	3029	3579	4130	4681	5231	5782	6883	8260	9637	11013	12390	13767
2200	303	606	909	2120	2726	3332	3937	4543	5149	5755	6360	7572	9086	10600	12115	13629	15143
2400	330	661	991	2313	2974	3634	4295	4956	5617	6278	6938	8260	9912	11564	13216	14868	16520
2600	358	716	1074	2506	3221	3937	4653	5369	6085	6801	7517	8948	10738	12528	14317	16107	17897
2800	385	771	1156	2698	3469	4240	5011	5782	6553	7324	8095	9637	11564	13491	15419	17346	19273
3000	413	826	1239	2891	3717	4543	5369	6195	7021	7847	8673	10325	12390	14455	16520	18585	20650

TABLE 14c ANNUAL KwH USAGE (ELECTRIC HEATING/COOLING) - PROTOTYPE III
Single Family, Two Story, Partial (Less Than 50%) or No Basement

BASELINE CITY - ASHEVILLE, NORTH CAROLINA

Gross Square Feet	HEATING OR COOLING DEGREE DAYS																
	100	200	300	700	900	1100	1300	1500	1700	1900	2100	2500	3000	3500	4000	4500	5000
100	16	32	48	111	143	175	207	239	270	302	334	398	477	557	636	716	795
200	32	64	95	223	286	350	414	477	541	604	668	795	954	1113	1272	1431	1591
400	64	127	191	445	573	700	827	954	1082	1209	1336	1591	1909	2227	2545	2863	3181
600	95	191	286	668	859	1050	1241	1431	1622	1813	2004	2386	2863	3340	3817	4294	4772
800	127	254	382	891	1145	1400	1654	1909	2163	2418	2672	3181	3817	4453	5090	5726	6362
1000	159	318	477	1113	1431	1750	2068	2386	2704	3022	3340	3976	4772	5567	6362	7157	7953
1200	191	382	573	1336	1718	2099	2481	2863	3245	3626	4008	4772	5726	6680	7634	8589	9543
1400	223	445	668	1559	2004	2449	2895	3340	3785	4231	4676	5567	6680	7793	8907	10020	11134
1600	254	509	763	1781	2290	2799	3308	3817	4326	4835	5344	6362	7634	8907	10179	11452	12724
1800	286	573	859	2004	2577	3149	3722	4294	4867	5440	6012	7157	8589	10020	11452	12883	14315
2000	318	636	954	2227	2863	3499	4135	4772	5408	6044	6680	7953	9543	11134	12724	14315	15905
2200	350	700	1050	2449	3149	3849	4549	5249	5948	6648	7348	8748	10497	12247	13996	15746	17496
2400	382	763	1145	2672	3435	4199	4962	5726	6489	7253	8016	9543	11452	13360	15269	17177	19086
2600	414	827	1241	2895	3722	4549	5376	6203	7030	7857	8684	10338	12406	14474	16541	18609	20677
2800	445	891	1336	3117	4008	4899	5789	6680	7571	8461	9352	11134	13360	15587	17814	20040	22267
3000	477	954	1431	3340	4294	5249	6203	7157	8112	9066	10020	11929	14315	16700	19086	21472	23858

TABLE 14d ANNUAL KwH USAGE (ELECTRIC HEATING/COOLING) - PROTOTYPE IV
Single Family, Two Story, Full Basement

BASELINE CITY - ASHEVILLE, NORTH CAROLINA

Gross Square Feet	HEATING OR COOLING DEGREE DAYS																
	100	200	300	700	900	1100	1300	1500	1700	1900	2100	2500	3000	3500	4000	4500	5000
100	18	36	53	124	160	196	231	267	302	338	373	444	533	622	711	800	889
200	36	71	107	249	320	391	462	533	604	676	747	889	1067	1245	1422	1600	1778
400	71	142	213	498	640	782	925	1067	1209	1351	1493	1778	2133	2489	2845	3200	3556
600	107	213	320	747	960	1173	1387	1600	1813	2027	2240	2667	3200	3734	4267	4800	5334
800	142	284	427	996	1280	1565	1849	2133	2418	2702	2987	3556	4267	4978	5689	6400	7112
1000	178	356	533	1245	1600	1956	2311	2667	3022	3378	3734	4445	5334	6223	7112	8001	8890
1200	213	427	640	1493	1920	2347	2774	3200	3627	4054	4480	5334	6400	7467	8534	9601	10667
1400	249	498	747	1742	2240	2738	3236	3734	4231	4729	5227	6223	7467	8712	9956	11201	12445
1600	284	569	853	1991	2560	3129	3698	4267	4836	5405	5974	7112	8534	9956	11379	12801	14223
1800	320	640	960	2240	2880	3520	4160	4800	5440	6080	6720	8001	9601	11201	12801	14401	16001
2000	356	711	1067	2489	3200	3911	4623	5334	6045	6756	7467	8890	10667	12445	14223	16001	17779
2200	391	782	1173	2738	3520	4303	5085	5867	6649	7432	8214	9778	11734	13690	15646	17601	19557
2400	427	853	1280	2987	3840	4694	5547	6400	7254	8107	8961	10667	12801	14934	17068	19201	21335
2600	462	925	1387	3236	4160	5085	6009	6934	7858	8783	9707	11556	13868	16179	18490	20802	23113
2800	498	996	1493	3485	4480	5476	6472	7467	8463	9458	10454	12445	14934	17423	19913	22402	24891
3000	533	1067	1600	3734	4800	5867	6934	8001	9067	10134	11201	13334	16001	18668	21335	24002	26669

TABLE 14e ANNUAL KwH USAGE (ELECTRIC HEATING/COOLING) - PROTOTYPE V
Apartments

BASELINE CITY - ASHEVILLE, NORTH CAROLINA

Gross Square Feet	HEATING OR COOLING DEGREE DAYS																
	100	200	300	700	900	1100	1300	1500	1700	1900	2100	2500	3000	3500	4000	4500	5000
100	11	21	32	75	96	117	139	160	181	203	224	267	320	373	427	480	533
200	21	43	64	149	192	235	277	320	363	405	448	533	640	747	853	960	1067
400	43	85	128	299	384	469	555	640	725	811	896	1067	1280	1493	1707	1920	2133
600	64	128	192	448	576	704	832	960	1088	1216	1344	1600	1920	2240	2560	2880	3200
800	85	171	256	597	768	939	1109	1280	1451	1621	1792	2133	2560	2987	3414	3840	4267
1000	107	213	320	747	960	1173	1387	1600	1813	2027	2240	2667	3200	3734	4267	4800	5334
1200	128	256	384	896	1152	1408	1664	1920	2176	2432	2688	3200	3840	4480	5120	5760	6400
1400	149	299	448	1045	1344	1643	1941	2240	2539	2838	3136	3734	4480	5227	5974	6720	7467
1600	171	341	512	1195	1536	1877	2219	2560	2902	3243	3584	4267	5120	5974	6827	7681	8534
1800	192	384	576	1344	1728	2112	2496	2880	3264	3648	4032	4800	5760	6720	7681	8641	9601
2000	213	427	640	1493	1920	2347	2774	3200	3627	4054	4480	5334	6400	7467	8534	9601	10667
2200	235	469	704	1643	2112	2582	3051	3520	3990	4459	4928	5867	7041	8214	9387	10561	11734
2400	256	512	768	1792	2304	2816	3328	3840	4352	4864	5376	6400	7681	8961	10241	11521	12801
2600	277	555	832	1941	2496	3051	3606	4160	4715	5270	5824	6934	8321	9707	11094	12481	13868
2800	299	597	896	2091	2688	3286	3883	4480	5078	5675	6272	7467	8961	10454	11948	13441	14934
3000	320	640	960	2240	2880	3520	4160	4800	5440	6080	6720	8001	9601	11201	12801	14401	16001

TABLE 14f ANNUAL KwH USAGE (ELECTRIC HEATING/COOLING) - PROTOTYPE VI
Mobile Homes

BASELINE CITY - ASHEVILLE, NORTH CAROLINA

Gross Square Feet	HEATING OR COOLING DEGREE DAYS																
	100	200	300	700	900	1100	1300	1500	1700	1900	2100	2500	3000	3500	4000	4500	5000
100	30	60	90	210	270	330	390	450	511	571	631	751	901	1051	1201	1351	1502
200	60	120	180	420	541	661	781	901	1021	1141	1261	1502	1802	2102	2403	2703	3003
400	120	240	360	841	1081	1321	1562	1802	2042	2282	2523	3003	3604	4205	4805	5406	6006
600	180	360	541	1261	1622	1982	2343	2703	3063	3424	3784	4505	5406	6307	7208	8109	9010
800	240	481	721	1682	2162	2643	3123	3604	4084	4565	5045	6006	7208	8409	9610	10812	12013
1000	300	601	901	2102	2703	3304	3904	4505	5105	5706	6307	7508	9010	10511	12013	13515	15016
1200	360	721	1081	2523	3243	3964	4685	5406	6127	6847	7568	9010	10812	12614	14415	16217	18019
1400	420	841	1261	2943	3784	4625	5466	6307	7148	7989	8829	10511	12614	14716	16818	18920	21023
1600	481	961	1442	3364	4325	5286	6247	7208	8169	9130	10091	12013	14415	16818	19221	21623	24026
1800	541	1081	1622	3784	4865	5946	7028	8109	9190	10271	11352	13515	16217	18920	21623	24326	27029
2000	601	1201	1802	4205	5406	6607	7808	9010	10211	11412	12614	15016	18019	21023	24026	27029	30032
2200	661	1321	1982	4625	5946	7268	8589	9911	11232	12553	13875	16518	19821	23125	26428	29732	33035
2400	721	1442	2162	5045	6487	7929	9370	10812	12253	13695	15136	18019	21623	25227	28831	32435	36039
2600	781	1562	2343	5466	7028	8589	10151	11713	13274	14836	16398	19521	23425	27329	31234	35138	39042
2800	841	1682	2523	5886	7568	9250	10932	12614	14295	15977	17659	21023	25227	29432	33636	37841	42045
3000	901	1802	2703	6307	8109	9911	11713	13515	15316	17118	18920	22524	27029	31534	36039	40544	45048

TABLE 15 MPS COOLING ZONE CONVERSION FACTORS

	Dwelling Prototypes					
	I	II	III	IV	V	VI
HUD MPS Heating Zone	Single Story No Basement	Single Story Full Basement	Double Story No Basement	Double Story Full Basement	Apart-ments	Mobile Homes
1	2.42	2.18	2.32	2.35	2.06	4.35
2	2.52	2.28	2.42	2.46	2.21	4.54
3	2.55	2.32	2.46	2.49	2.20	4.60
4	1.98	1.75	1.89	1.92	1.63	3.58
5	2.20	1.97	2.11	2.14	1.85	3.97
6	1.58	1.34	1.49	1.52	1.23	2.86
7						
8						

F. NON-SPACE HEATING/COOLING ENERGY CONSUMPTION/COST

The examples in the preceding sections (VI.C, VI.D and VI.E) dealt with the charges for space heating and cooling. However, to compute **total** energy consumption charges, the costs for energy consumed by lights, equipment, and appliances (Government **and** tenant owned) must be determined and added to the heating and cooling charges.

1. **Consumption**. Electric non-space heating/cooling consumption and cost estimates include electricity used by small appliances, lights, radios, television, refrigerators, ranges, washers, dryers, etc. These items, and their associated consumption levels, are shown in Table 16. It is assumed that every government quarter uses furnace fan, television/radio, lights, and miscellaneous small appliances. Be sure to add these items from Table 16 in addition to any other applicable items in determining the total consumption.

   To use Table 16, first, determine the finished floor space square footage range within which a specific quarters unit falls. Then, using the values in Table 16, add the KwH consumed by each appliance or equipment item which is present in the quarters unit. If a housing unit has more than one (1) refrigerator, freezer, room (window) air conditioner, or space heater, multiply the KwH shown in the table times the number of refrigerators, freezers, room air conditioners, or space heaters that are present in the quarters unit to determine the total monthly KwH consumption for these appliances.

   There may be instances where appliances are fueled by fossil fuels rather than by electricity. Table 16a provides monthly consumption (in MCF or gallons of fuel) for the most common of these.

   If an appliance listed in Table 16 or Table 16a is not present in the quarters unit at issue, do not include its monthly energy consumption when computing the total energy consumed by equipment and appliances.

2. **Cost**. The cost of electricity or fossil fuel consumed by appliances and equipment is easily computed by multiplying the total monthly consumption (as determined in the preceding paragraphs) times the appropriate charge per KwH, MCF or gallon. These unit charges are shown in Table 17.

TABLE 16 MONTHLY KwH USAGE: APPLIANCES AND EQUIPMENT

Appliance/ Equipment	Gross Square Feet of Living Space									
	Under 301	301-500	501-700	701-1,100	1,101-1,300	1,301-1,500	1,501-1,900	1,901-2,100	2,101-2,500	Over 2,500
Hot water heater	130	130	245	245	370	370	480	480	600	705
Stove / Microwave	45	45	50	50	55	55	60	60	65	70
Refrigerator 1/	45	50	50	50	85	85	85	85	85	85
Clothes washer	20	35	35	35	45	45	45	55	55	65
Clothes dryer	15	15	25	25	35	35	35	35	40	50
Dishwasher	35	35	45	45	60	60	70	70	80	95
Freezer 1/	70	70	70	70	70	70	70	70	70	70
Furnace fan	15	15	20	20	20	25	25	30	30	35
Room air conditioner	65	65	65	65	65	65	65	65	65	65
Television / radio	5	5	10	10	20	20	20	20	25	25
Lights	50	55	75	80	90	90	95	100	120	120
Space heater (portable) 1/	130	130	130	130	130	130	130	130	130	130
Misc. small appliances	30	30	45	45	65	65	75	80	95	105
Engine Heaters	195	195	195	195	195	195	195	195	195	195
Hot Tub	360	360	360	360	360	360	360	360	360	360

1/ If more than one of these appliances are present in a quarters unit, multiply the KwH consumption times the number of appliances to determine the total KwH consumed for each appliance category.

NOTE: FOR APPLIANCES OPERATED BY FOSSIL FUELS, SEE TABLE 16a.

TABLE 16a MONTHLY FOSSIL FUEL CONSUMPTION: APPLIANCES AND EQUIPMENT

Gross Square Feet of Living Space

Appliance/ Equipment	Under 301	301-500	501-700	701-1,100	1,101-1,300	1,301-1,500	1,501-1,900	1,901-2,100	2,101-2,500	Over 2,500
Hot water heater										
Natural Gas MCF	.55	.55	1.05	1.05	1.58	1.58	2.05	2.05	2.56	3.01
Propane Gallons	5.61	5.61	10.71	10.71	16.12	16.12	20.91	20.91	26.11	30.70
Fuel oil Gallons	3.87	3.87	7.39	7.39	11.12	11.12	14.43	14.43	18.02	21.19
Kitchen Range										
Natural Gas MCF	.19	.21	.21	.21	.36	36	.36	.36	.36	.36
Propane Gallons	1.94	1.94	2.14	2.14	2.35	2.35	2.65	2.65	2.86	3.06
Fuel oil Gallons	1.34	1.34	1.48	1.49	1.62	1.62	1.83	1.83	1.97	2.11
Refrigerator 1/										
Natural Gas MCF	.19	.21	.21	.21	.36	.36	.36	.36	.36	.36
Propane Gallons	1.94	2.14	2.14	2.14	3.67	3.67	3.67	3.67	3.67	3.67
Clothes dryer										
Natural Gas MCF	.06	.06	.11	.11	.15	.15	.15	.15	.17	.21
Propane Gallons	.61	.61	1.12	1.12	1.53	1.53	1.53	1.53	1.73	2.14
Freezer 1/										
Natural Gas MCF	.30	.30	.30	.30	.30	.30	.30	.30	.30	.30
Propane Gallons	3.06	3.06	3.06	3.06	3.06	3.06	3.06	3.06	3.06	3.06
Space heater (portable) 1/										
Natural Gas MCF	.55	.55	.55	.55	.55	.55	.55	.55	.55	.55
Propane Gallons	5.61	5.61	5.61	5.61	5.61	5.61	5.61	5.61	5.61	5.61
Fuel oil Gallons	3.87	3.87	3.87	3.87	3.87	3.87	3.87	3.87	3.87	3.87

1/ If more than one of these appliances are present in a quarters unit, multiply the consumption times the number of appliances to determine the total consumed for each appliance category.

NOTE: To compute the cost per month for an appliance that is fueled by a fossil fuel, multiply the consumption listed by the unit cost found in Table 17 of this report.

G. WATER AND SEWER CONSUMPTION/COST CALCULATIONS

In accordance with OMB Circular No. A-45 and Departmental policies and guidelines, when utilities are furnished by the Government, charges shall be based upon regional average residential rates and consumption levels applicable to private rental housing in the survey region.

Where regional survey procedures are used to establish base rental rates, *the charges for Government-furnished water and sewer services, must be based upon regional average water and sewer rates*, and *not* the rates prevailing in the nearest Established Community. In determining the regional average rates, the water and sewer rates for each survey community were obtained and averaged.

Thus, where the water service is unmetered, and where the Government furnishes water and sewer services, *including well water and septic waste disposal systems*, the regional average flat rate charges, shown below, shall be used. These charges are based upon (1) the average of the monthly service costs (including taxes, service charges, etc.) in all surveyed communities; and (2) consumption levels (based on numbers of bedrooms) contained in planning guides published by the Department of Housing and Urban Development (HUD). The rates below are based upon the number of bedrooms contained in a dwelling.

Flat Rate Water and Sewer Charges

Number of Bedrooms	Monthly Charges			Total
1 (or less)	$12.65 water	+	$14.70 sewer	= $27.35
2	$17.50 water	+	$20.50 sewer	= $38.00
3	$24.00 water	+	$27.75 sewer	= $51.75
4	$30.00 water	+	$35.00 sewer	= $65.00

H. GOVERNMENT PROVIDED METERED UTILITIES

Where the Government provides the utilities, and the consumption is metered *at the quarters unit level*, the following unit charges will apply.

TABLE 17 UTILITY CHARGES (COST PER UNIT)

Do not calculate the total cost of electricity in steps, such as the first 500 KwH costs so much, then the second 500 KwH costs so much, etc.

a. Electricity

KwH Consumed Per Month	Charge Per KwH
0 - 500	$.090
501 - 1,000	$.083
1,001 - 1,500	$.081
Over - 1,500	$.079

b. Fuel Oil #2 — $1.69 Per Gallon.

c. Propane — $1.35 Per Gallon.

d. Natural Gas — $11.25 Per MCF (1,000 cubic feet).

e. Water

Water Consumed Per Month	Cost Per Gallon
1 – 3,000 Gallons	$0.0042
3,001 - 5,000 Gallons	$0.0035
5,001 - 7,500 Gallons	$0.0032
Over - 7,500 Gallons	$0.0030

f. Sewer

Sewer Consumed Per Month	Cost Per Gallon
1 - 3,000 Gallons	$0.0049
3,001 - 5,000 Gallons	$0.0041
5,001 - 7,500 Gallons	$0.0037
Over - 7,500 Gallons	$0.0035

I. GARBAGE/TRASH REMOVAL SERVICE RATES

In the case of garbage and trash hauling, as with other Government-provided services, OMB Circular No. A-45 requires the charges to be based upon the domestic rates for comparable services provided to occupants of private rental units in the survey area.

The garbage and trash services provided to quarters occupants vary from weekly to daily service. Establishment of a service charge based upon the service in the nearest established community may or may not reflect a similar level of service. Therefore, the charge for garbage and trash collection, when conducted by the Government, will, regardless of quarters type, be **$12.25 per quarters unit per month**.

J. CHARGES FOR APPLIANCES AND RELATED SERVICES

OMB Circular No. A-45 requires agencies to charge occupants of Government quarters for appliances, furnishings and services that the Government provides with the quarters. The charges for appliances, furnishings and services most typically provided by Federal agencies are found in Table 18. The monthly recapture cost of the items in Table 18 were determined from information gathered by contractors in the survey communities of all QMIS regions, and from special studies conducted by the Quarters Operations Office.

Agencies providing appliances, furnishings or services that are not included in Table 18 are responsible for establishing an appropriate monthly charge that reflects the private market value of the item(s) provided. In such cases, the agency or bureau should advise the Quarters Operations Office to ensure that subsequent regional survey reports include charges for all Government-provided appliances, furnishings and services.

TABLE 18 MONTHLY CHARGES FOR APPLIANCES & RELATED SERVICES

APPLIANCES		
Range (Gas / Electric) *	(+/-)	$3.45
Refrigerator *	(+/-)	$3.15
Clothes Washer		3.65
Clothes Dryer		3.05
Dishwasher		3.00
Microwave Oven		1.25
Trash Compactor		3.45
Freezer		1.80
Freezer (Community)		.95
Window Air Conditioner		
Refrigerated Unit		3.90
Evaporative (Swamp) Unit		2.90
Free Standing Stove		3.50
Fireplace Insert		4.20
Lawn Mower		3.60
Hot Tub		31.80
Community Laundry		
(Non-Coin Operated)		
Washer Only		1.80
Dryer Only		1.50
Washer and Dryer		3.30
ISOLATION ADJUSTMENT FACTOR		2.90

SERVICES AND FURNISHINGS	
Storage Shed (Per Unit)	$2.45
Furniture (Per Room)	11.20
Swimming Pool	
Private Pool	60.00
Community Pool	20.00
Satellite Dish	19.65
Cable Television	25.45
Premium Channel (Each)	17.10
Maid Service	72.00
Lawncare (Per Mowing)	
Houses (Excluding Plexes)	21.35
All Other Classes	10.70
Snow Removal (Per Removal)	13.10
Firewood (Per Cord)	134.70
ELECTRIC CREDITS	
Well pump (0-1 Bedroom)	1.15
Well pump (2 Bedrooms)	1.80
Well pump (3 Bedrooms)	2.60
Well pump (4+ Bedrooms)	3.55
Sewer Lift Pump (0-1 Bedroom)	1.15
Sewer Lift Pump (2 Bedrooms)	1.15
Sewer Lift Pump (3 Bedrooms)	1.35
Sewer Lift Pump (4+ Bedrooms)	1.80
Base Radio	1.15
Remote Control Relay	1.15
Sump Pump	1.15
Radon Mitigation Fan	10.45

** If the Government provides one range and refrigerator, no additions or deductions are made.*
If the Government does not provide a range or a refrigerator, deduct the amount shown above.

If the Government provides 2 or more ranges or refrigerators, add the amounts shown above for each appliance furnished in excess of one range and one refrigerator

VII. ADMINISTRATIVE ADJUSTMENTS

Once the MBRR is established, certain adjustments (e.g. for isolation and amenity deficiencies) are authorized by OMB Circular No. A-45. These administrative adjustments are established by OMB and are not derived from regional surveys conducted by the Quarters Operations Office.

The administrative adjustments contained in OMB Circular A-45, and described below, are not authorized for dormitories, bunkhouses, or transient quarters. This is because the rental rates for those housing classes are administratively established, through extensions of the principle of comparability, and are not based directly upon market comparability.

A. SITE AMENITY ADJUSTMENTS

Living conditions at some Government housing sites are not always the same as those found in the survey communities. In the communities surveyed, the amenities discussed below (and in OMB Circular A-45) are generally present and their contributory value is included in the contract rent and in the quarters MBRR's determined from the tables in this report. Thus, if any amenity listed below is present at the quarters site, no positive adjustment is made for that amenity because its presence has already accounted for in the MBRR. However, the lack of an amenity discussed below represents a less desirable condition that should be reflected as a **negative** percentage adjustment to the quarters MBRR or CPI-adjusted MBRR (CPI-MBRR), whichever is applicable.

1. **Reliability and adequacy of water supply**. The water delivery system at the quarters site should provide potable water (free of significant discoloration or odor) at adequate pressure at usual outlets. If the water delivery system at the quarters site does not meet these conditions, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

2. **Reliability and adequacy of electric service**. Electric service at the quarters site must equal or exceed a 100-ampere power system, and should provide 24-hour service under **normal** conditions. When evaluating the electric service, housing managers are reminded that OMB Circular A-45 recognizes that occasional temporary power outages are considered to be "**normal**" conditions. Furthermore, if an adequate back-up generator is available, then the electric service amenity will be considered to be reliable and adequate regardless of the reliability of the primary power source. When electric service is inadequate and unreliable, 3 percent should be deducted from the MBRR or CPI-MBRR whichever is applicable.

3. **Reliability and adequacy of fuel for heating, cooling and cooking.** There should be sufficient fuel storage capacity to meet prevailing weather conditions and needs. Where electricity is used as the heating, cooling or cooking "fuel," an adjustment can only be made when a deduction has been made for deficient electric service (see paragraph VII.A.2, above). If the fuel delivery/storage system is inadequate, 3 percent should be deducted from the MBRR or the CPI-MBRR, whichever is applicable.

4. **Reliability and adequacy of police protection**. Law enforcement personnel, including Government employees with law enforcement authority, should be available on a 24-hour basis. OMB Circular A-45 defines "**availability**" as the ability of law enforcement officers to respond to

emergencies at the quarters site as quickly as a law enforcement officer in the nearest established community could respond to an emergency in the nearest established community.

OMB Circular A-45 further provides that where part-time officers serve the quarters site, the fact that the officers are part-time does not necessarily mean that they are less available than officers in the nearest established community. The important point is that the availability determination must be based on comparative response times (quarters site vs. the nearest established community) - not the employment conditions of the officers serving the quarters site.

Finally, OMB Circular A-45 provides that gaps in availability due to temporary illness or injury, use of annual leave, temporary duties, training, or other short absences, do not render law enforcement personnel "unavailable" at the quarters site.

If, after applying these guidelines, it is determined that the law enforcement protection at the quarters site is unreliable and inadequate in comparison to the reliability and adequacy of law enforcement protection in the nearest established community, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

5. **Fire insurance availability or reliability and adequacy of fire protection**. Fire insurance should be available (for the quarters) with the premium charge based upon a rating equal to the rating available to comparable housing located in the nearest established community. Alternatively, adequate equipment, an adequate supply of water (or fire retardant chemical), and trained personnel should be available on a 24-hour basis to meet foreseeable emergencies. OMB Circular A-45 provides that **if either element is present (adequate insurance or an adequate fire fighting capability), no adjustment is authorized**. If both elements are missing, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

6. **Reliability and adequacy of sanitation service**. An adequately functioning sewage disposal system and a solid waste disposal system should be available. OMB Circular A-45 considers septic, cesspool or other systems adequate even though they may require periodic maintenance, as long as they are usable during periods of occupancy. If the sanitation service at the quarters site is unreliable or inadequate, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

7. **Reliability and adequacy of telephone service**. Access to commercial telephone facilities should be available on a 24-hour basis. Deductions (except as provided below) are not allowed for occasional temporary interruptions of telephone service. OMB Circular A-45 allows specific deductions for various levels of service and privacy. These are explained below.

   a. The MBRR or CPI-MBRR (whichever is applicable) should be reduced by 3 percent if telephone service is not available within the quarters or within 100 yards of the quarters.

   b. The MBRR or CPI-MBRR (whichever is applicable) should be reduced by 2 percent if there is no telephone service within the quarters, but telephone service (either private or party line) is available within 100 yards of the quarters.

c. The MBRR or CPI-MBRR (whichever is applicable) should be reduced by 1 percent if telephone service is available in the employee's quarters, but the service is not private line service and/or the service is not accessible on a 24-hour per day basis.

8. **Noise and odors**. If there are frequent disturbing or offensive noises and/or odors at the quarters site, 3 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

9. **Miscellaneous improvements**. One or more of the following improvements should be available at the quarters site: paved roads/streets, sidewalks or street lights. If any one of these improvements is present, no deduction is authorized. If all three of these improvements are missing (i.e., there are no paved roads/streets **and** there are no sidewalks, **and** there are no street lights), 1 percent should be deducted from the MBRR or CPI-MBRR, whichever is applicable.

B. ISOLATION ADJUSTMENT

In some cases, Government quarters are located far from the nearest established community (see paragraph IX.C for the OMB's definition of "established community"). In addition, different modes of transportation (travel categories) may serve to further isolate the quarters from the nearest established community. In situations where the quarters location and the travel categories meet the requirements contained in OMB Circular A-45, an isolation adjustment should be applied. To determine whether an isolation adjustment applies, and the amount of the adjustment (if one does apply), you should follow the steps in the Isolation Adjustment Computation Schedule, shown on the following page. This schedule is a (modified) reproduction of the appendix to OMB Circular A-45, and is included in this report for illustrative purposes, only. Therefore, you should use the form prescribed by your agency or bureau when documenting the isolation adjustment.

Isolation Adjustment Computation

- *Step 1.* Determine the one-way distance in miles (from the quarters to the nearest established community) for each category of transportation listed in Figure 1. Enter mileage(s) in the appropriated block(s) under Column B.

- *Step 2.* Multiply mileage figures entered in Column B by point values listed in Column A for each affected category of transportation to produce one-way points for each category. Add 29 points to the category 4 subtotal and 27 points to the category 5 subtotal to reflect relative differences in cost or time by use of these modes of travel.

- *Step 3.* Add all categories of one-way points in Column C to produce one-way points. (The total must exceed 30 points or there is no adjustment for isolation.)

Figure 1

Category of Travel	Column A Point Value		Column B One-way Miles			Column C One-way Points
(1) Paved road or rail	1.0	X	____	=		____
(2) Unpaved but improved road	1.5	X	____	=		____
(3) Unimproved road	2.0	X	____	=		____
(4) Water, snowmobile, pack animal, foot or other special purpose conveyance	2.5	X	____	=	____+29	____
(5) Air	4.0	X	____	=	____+27	____
TOTAL ONE-WAY POINTS				=		____

- *Step 4.* Calculate the Isolation Adjustment Factor (IAF) using the following OMB formula: Multiply 2 (to reflect round-trip points) by 4 (to reflect number of trips per month) and then multiply by $x.xx (GSA's current automobile allowance as of the last day of September of each year). For example, the GSA mileage allowance, as of September 30, 2003, was $0.360 per mile, resulting in an IAF of 2.90.

ISOLATION ADJUSTMENT FACTOR = 2.90

- *Step 5.* Multiply total adjusted points by the Isolation Adjustment Factor to produce the monthly adjustment for isolation (rounded to the nearest whole dollar).

MONTHLY ADJUSTMENT = _____

C. LOSS OF PRIVACY

Some quarters occupants are subject to a loss of privacy during non-duty hours by virtue of **public visits which occur several times daily**. In other cases, quarters occupants may be **inhibited from enjoying the full range of activities normally associated with living in private rental housing** (such as where restrictions are imposed on activities in quarters at national cemeteries, or where quarters are in view of prison inmates). In such cases, OMB Circular A-45 allows a deduction from the MBRR or CPI-MBRR (whichever is applicable) of up to 10 percent. OMB Circular A-45 instructs housing managers to establish proportional adjustments to reflect situations of less frequency or seriousness in their impact upon privacy or usage, or to reflect seasonal variations.

D. EXCESSIVE OR INADEQUATE SIZE

Quarters occupants are sometimes provided dwellings that are excessively large or small for their needs. This may be because the range and variety of quarters available at an installation may be much less than that which is available in private rental markets. In such cases, OMB Circular A-45 allows a deduction from the MBRR or the CPI-MBRR (whichever is applicable) of up to 10 percent. The Circular instructs that the deduction should be in direct proportion to the degree of excess or inadequacy, and that the deduction must not continue beyond one month after suitable quarters are made available. Before this adjustment is applied, local housing managers should consult with managers within their agencies or bureaus to determine whether other alternatives (such as closing off rooms and other excess space) would offer a more suitable means of adjustment.

E. LIMITATIONS TO ADMINISTRATIVE ADJUSTMENTS

Administrative adjustments cannot be applied without limit. OMB Circular A-45 provides that the MBRR or CPI-MBRR cannot be reduced by more than 50 percent unless an isolation is authorized and applied. For quarters which receive an isolation adjustment, the MBRR or CPI-MBRR may not be reduced by more than 60 percent. These limitations do not apply to excessive heating or cooling adjustments, which are described in paragraph IX.A of this report.

VIII. CONSUMER PRICE INDEX ADJUSTMENTS

OMB Circular A-45 requires annual verification, and adjustment (when necessary) of the following rental components that are presented in this report: (1) the Monthly Base Rental Rates (MBRR's); (2) the charges for related facilities (utilities, appliances, furnishings and services); and (3) the Isolation Adjustment Factor (IAF). These verifications and adjustments are to be made, essentially, in each interim year between baseline regional surveys.

Generally, OMB Circular A-45 specifies that these changes are to be based upon September index levels of specified components of the Consumer Price Index (CPI); and the GSA temporary duty mileage allowance in effect as of September 30, of each year. These changes must be implemented at the beginning of the first pay period in March of each following year.

The Quarters Operations Office is responsible for determining the amounts of these changes, and for providing QMIS Program participants with the information, the software and the instructions needed to implement the required changes. This information is usually distributed to each National Quarters Officer in November of each year. National, regional or installation quarters managers (as required by your agency or bureau) are responsible for implementing these annual rental adjustments.

IX. OTHER OMB CIRCULAR A-45 RENT CONSIDERATIONS

A. EXCESSIVE HEATING OR COOLING COSTS

OMB Circular A-45 authorizes a deduction from the Monthly Base Rental Rate (MBRR) or the Consumer Price Index - adjusted Monthly Base Rental Rate (CPI-MBRR), whichever is applicable, when quarters are unusually costly to heat or cool. This adjustment is allowed only when (1) the excessive heating or cooling costs are due to the poor design of the quarters or the lack of adequate insulation/weather-proofing; and (2) when the energy/fuel used for heating and/or cooling is metered. This adjustment will vary from quarters-to-quarters, but is the difference between the actual heating and/or cooling costs paid by the quarters occupant and 125 percent of the cost of heating and/or cooling a comparable (but adequately constructed and insulated) dwelling located in the same climate zone. For more information on this adjustment, you should consult your agency or bureau policies.

B. INCREMENTAL ADJUSTMENTS

New baseline regional surveys or annual CPI adjustments may occasionally increase quarters rents by more than 25 percent. When this occurs, OMB Circular A-45 allows housing managers to impose the increase incrementally over a period of not more than one year. The Circular also requires that such increases must be applied in equal increments on at least a quarterly basis.

C. ESTABLISHED COMMUNITY

OMB Circular A-45 has established the following minimum standards for use in determining which population centers (cities, towns, etc.) may be used as "established communities" when determining quarters rents.

1. An established community must have a year-round population of 1,500 or more (5,000 or more in Alaska). The population determinations must be based upon the most recently conducted decennial census.

2. An established community must have at least one doctor and one dentist, who are available to all quarters occupants on a non-emergency basis.

3. An established community must have a private rental market with housing available to the general public. This requirement excludes communities on military posts, Indian reservations and other Government installations which may meet the other criteria contained in paragraphs IX.C.1 and 2, above.